# ENGINEERING NEWS-RECORD

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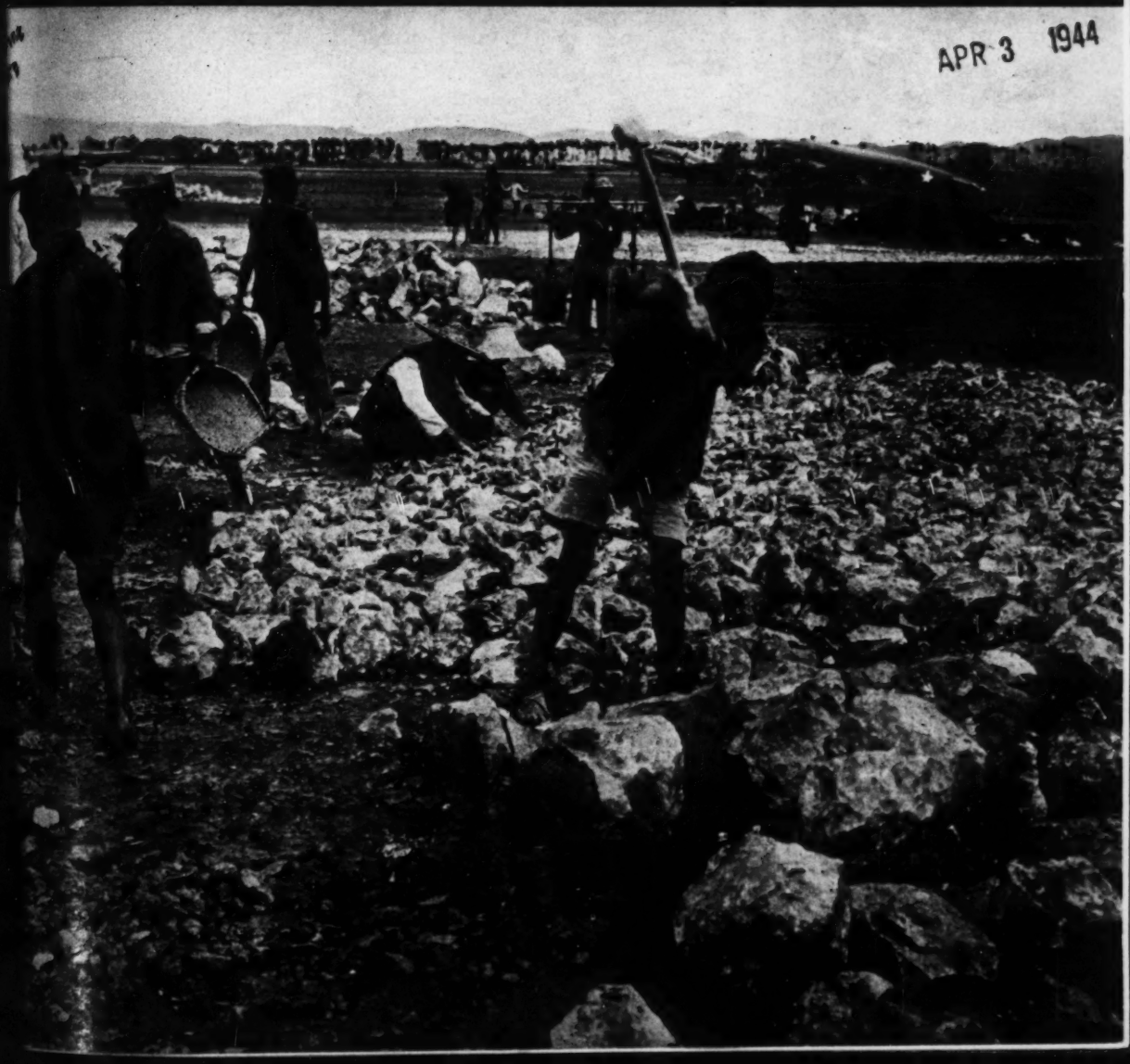
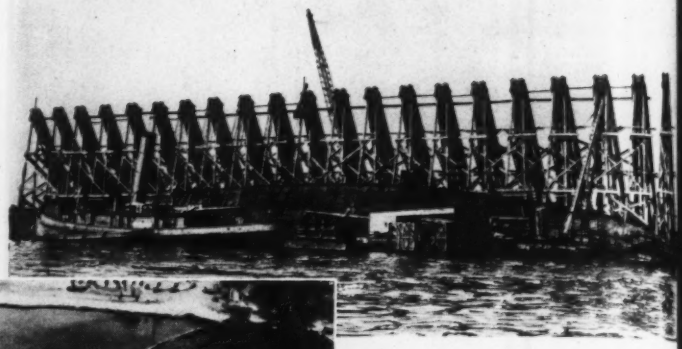
Hand-crushed stone and mud slurry are being used to surface this airfield in China

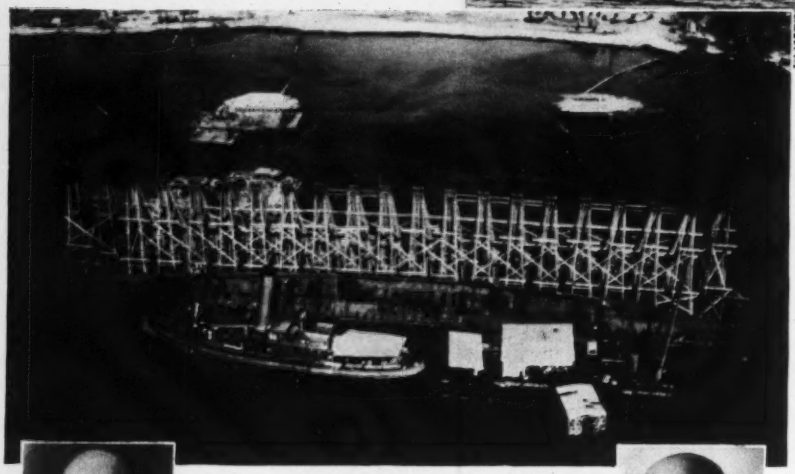


APR 3 1944

# *The* RIG *that Righted the* OKLAHOMA

**The story of the righting of the *Oklahoma*—a major engineering achievement by the Pacific Bridge Company, with an "assist" from G-E equipment and G-E application engineering**





BY

**R. F. EMERSON**

*Industrial Engineering Division, Schenectady, N. Y.*

**CHARLES STOECKLY**

*Industrial Division, San Francisco Office*

### *Archimedes Did It First*

The year was 285 B.C. A war galley of the King of Syracuse was capsized in the mud. Archimedes, called to the task of righting it, applied the principle of the "compound pulley"—and the muscles of sweating slaves—and succeeded in restoring the 200-ton vessel to service.

The *Oklahoma*—30,000 tons—responded to the same treatment by the men of Pacific Bridge. Sweat? Plenty! But—this time—the "slaves" were motors, and they responded to the commands of their master more faithfully, bent to their task more willingly, than did the serfs of Syracuse.

### *Versatile Winch Drives Do It Better*

Twenty-one G-E variable-voltage motor equipments were chosen to drive 21 winches. These winches, spaced 17 feet apart, were each designed for a line pull of 72,000 pounds at one foot per minute. Each line was reeved through a 17-part "compound pulley," yielding a pull on the ship of more than 600 tons per winch—an aggregate of nearly 13,000 tons for the 21 winches.

The moving blocks of the 21 compound pulleys were attached to the tops of 21 A-frames erected along the bilge keel of the ship to provide the necessary turning moment, and the A-frames were backstayed by lines attached to the side of the hull.

### *The Real Problem*

It was imperative that the winch motors be capable of the most precise individual control. It was not possible to predict the reaction of the huge vessel when it started rolling on a bottom which varied—along the ship's length—from semiliq muck to solid reef coral. Possibl existed for rocking fore- and differential rolling and sliding, changes in the center of rotat (All these were encountered.) F thermore, the forces involved in righting were so great that fai to control them might well comp the job the Japs began—by break the ship apart! Only a control sy capable of responding fully to judgment of the men in charge of work would serve this job.

Given an understanding of true problem, such a system was too difficult to devise, but to b and supply the equipment on sh notice was a task of some magnitu D-c machinery—then, as now, critically scarce commodity—had be rounded up swiftly, and its char teristics altered as necessary to the job; control equipment had be built from parts that were obta able; the system had to be assembl tested, and shipped. The doing of required the ingenuity and the operation of men in G-E engineer offices, warehouses, and factor from San Francisco to Schenectad

We at General Electric are pro to have helped with this tremendo task—and glad that the *Oklah* floats to fight again.

**This project illustrates the kind assistance General Electric engine can render to solve problems promote progress in the construct industry. If you have a problem, th skill plus G-E equipment might provide the best solution. Just get touch with our nearest office. We'll glad to help you. *General Electr Company, Schenectady 5, N. Y.***

**GENERAL ELECTRIC**

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# The Week In Engineering and Construction

GINEERING NEWS-RECORD • MARCH 30, 1944 • VOLUME 132 • NUMBER 13

## Postwar planners cautioned about financing projects

### New Jersey Sewage Works Association told that "extravagant" designs must be avoided. Unique charge system adopted for industrial wastes treatment.

That what a municipality would like have and what it can afford to pay are not always the same is a princi- that is being overlooked by enthu- tic proponents of postwar planning, the opinion of New Jersey's hard- ded state commissioner of local finan- Walter R. Darby, who addressed New Jersey Sewage Works Associa- n at its 29th annual meeting in Tren- March 23-24.

Mr. Darby minced no words in telling ymposium group on postwar planning t too many communities are expect- "to build and support a Cadillac- e sewage disposal installation on a rd income." While he expressed him- f as being in full accord with the desirability of advance planning, he urged that every municipal project be viewed in its relationship to other needs and the financial obligations involved.

Sewage disposal facilities, said Mr. Darby, are every expensive, and municipal officials may take justifiable pride in securing only the best. However, this must be no excuse for incorporating every new gadget that may be on the market, or in "gold plating" plant equipment. Furthermore, optimistic views on future community growth frequently lead to the installation of oversize treatment plants long before they are needed.

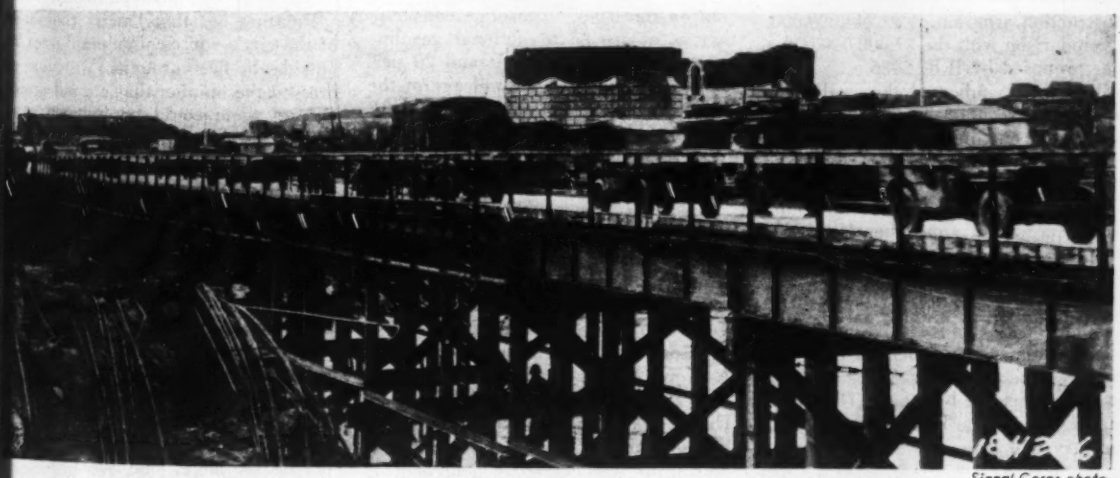
"In brief," cautioned Mr. Darby, "don't be extravagant in postwar planning. Remember that what you plan now will have to be lived with and paid for over a 20-30 year period." He revealed that in his job as state overseer of municipal budgets, he found many evidences that communities were prone to overextend themselves financially.

#### What industry should pay

Treatment of industrial wastes in municipal disposal plants will call for attention in the postwar period, stated Chester W. Paulus, mayor of New Brunswick, who outlined the steps his city had already taken in this regard. War production with its increased wastes has greatly increased operating costs at the New Brunswick chemical-mechanical type treatment plant—a cost that cannot justifiably be charged to the taxpayers.

Accordingly, the city passed an ordinance recently, establishing charges for industrial wastes, based on volume of flow, solids content and chlorine demand. This three-part charge calls for the payment of $22 per million gallons of flow, $5 per ton of solids in the wastes, and $5 per hundred pounds of chlorine demand exerted by the wastes. On this

(*Continued on page 6*)



Signal Corps photo

**New bridge built by Army Engineers at Capua, Italy**

*When the Germans retreated across the Volturno River in Italy they destroyed every bridge in the path of the Allied advance. When the American Army reached the Volturno, Engineers immediately threw pontoon bridges across the river to facilitate rapid advance of the forward units. After both sides of the stream were in the hands of the Allies, fixed bridges were constructed, such as the sturdy one at Capua, pictured above. Heavy streams of traffic may be seen proceeding in both directions. Part of the structure of the old, destroyed bridge is at the lower left, and some ancient Roman architecture is seen in the background.*

# General contractors favor increase in postwar road building program

***Highway contractors have equipment to take on $2,224,000,000 of road work. American Automobile Association urges more urban work, and suggests a new apportionment basis***

H. E. Foreman, managing director of the The Associated General Contractors of America, told members of the House Roads Committee on March 21 that the construction industry is prepared to execute a highway construction program at least twice the size of the $3,000,000,000 proposed in H.R. 2426, which would be spent at the rate of $1,000,000,000 a year in the three years following the war. Mr. Foreman said this would be true even if contractors should be unable to get any new equipment during the first postwar year, and would not depend on the rate of demobilization.

Mr. Foreman added that the work can be gotten under way as rapidly as desired. The one thing, he said, which could delay prompt start would be failure to prepare plans and specifications, to secure rights-of-way, and complete other preliminaries to actual construction.

#### Sufficient equipment

The AGC sent a questionnaire to part of its membership to determine the highway contracting industry's capacity for road work on the basis of equipment. The replies from all over country, Mr. Foreman said, indicate that highway contractors have equipment on hand at the present time for an annual highway construction program of $2,244,000,000, in comparison with the $1,000,000,000 a year proposed by H.R. 2426.

Contractors indicated they will have retired 12 percent of their present equipment by the end of the war, and said that they would like to replace an average of 34 percent during the first postwar year which, Mr. Foreman said, would indicate a need for approximately $250,000,000 worth of new highway equipment the first year after the war.

#### Competitive bidding asked

Mr. Foreman recommended that Congress require that contracts be awarded on the competitive bid basis. The excess capacity which the highway contracting industry will have above that required for the proposed program, he said, "will assure adequate competition to keep prices reasonable. A majority opinion in construction would probably be that prices will drop from the war peak but not recede to prewar levels," he added.

#### Apportionment plan opposed

Charles H. Sells, superintendent of the New York State Department of Public Works, expressed himself as opposed to the proposal contained in H.R. 2426 to increase the federal share of the cost of road work from 50 percent to 75 percent. He also said that the bill did not make adequate provisions for the needs of some states.

Like opposition to complete abandonment of the 50-50 division of costs between states and the federal government was expressed by representatives of the American Automobile Association. The association would retain the 50-50 division except on the Interregional Highway System (*ENR* Jan. 27, vol. p. 144) where the federal share would be increased to 75 percent to cover the cost of right-of-way, which is expected to be high on the urban sections of that system. The AAA would use 60 percent of federal funds on urban sections of the system in the first three years after the war. It favors apportionment of those funds on the following basis: 80 percent on the basis of gasoline consumption as compared to national gasoline consumption on highways, and 20 percent on the basis of the mileage of the Interregional System within each state.

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## Venezuela waterworks goes to two U. S. firms

A $9,000,000 contract for the construction of part of the new waterworks system in Caracas, capital city of Venezuela, was awarded last week to Johnson, Drake and Piper, Inc., and S. J. Groves & Sons Co., both of Minneapolis. Proposals were received from 12 United States and Venezuelan contracting organizations. A spokesman for both firms, who entered a combined bid stated that work would be started in about six months, and would require two years to complete. Construction equipment is now being prepared for shipment to Venezuela, and a staff of about one hundred North Americans is being organized.

Designs for the work were prepared by the Venezuela office of Parsons, Brinckerhoff, Hogan and MacDonald, consulting engineers, New York. The project plans call for the initial construction of three earthfill dams, a concrete gravity dam, a 37-in. concrete pipeline, and a hydro plant. The latter will utilize the head of 1,430 ft. available below a storage dam before the water enters the Macarao River, the augmented flow from which will be led to a filtration plant. In the power house, three impulse-type turbines will produce a total of 5,000 kilowatts, most of which will be used for the operation of the water system.

The filtration plant is not included in the present contracts. Details of this part of the project are being developed by the National Institute of Sanitary Works, the federal government body under whose direction the entire project is being carried out.

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## Downtown residences proposed for New York

A proposal has been offered by George A. Sloan, New York City commissioner of commerce, for the postwar development of a residential area in downtown Manhattan within walking distance of the financial district.

Pointing out that "many thousands" of the city's white-collar employees live outside the five boroughs, Mr. Sloan expressed the opinion that a good proportion of them could be induced to return if attractive, moderate-priced housing were built near their offices.

"I am sure," he said, "that there is available land along the east and west waterfronts, from the Battery north, suitable for housing development."

Suggesting that "some of our great insurance companies, banking institutions and other real-estate minded investors" sponsor such a development, he asserted that the district contains "block after block of available land that can be purchased reasonably. Such sites could accommodate "50,000 people or more," he said.

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ENGINEERING ABROAD AS SEEN BY ENR EDITORS

# "Up the Slot" from Noumea


## By Nathan A. Bowers

Pacific Coast Editor, Engineering News-Record


**This is the third of a series of letters received from Mr. Bowers, who is now on a tour of South Pacific bases to report on war construction. Previous reports appeared in our issues of Feb. 17, p. 221, and March 2, p. 301.**

ESPIRITU SANTO, March 3.—In Nou- New Caledonia, interest centers und what goes on at the front up in Solomons. The route to that scene of ion is nicknamed, in accord with y preference for short form terms, e Slot" and up the Slot we travelled isit the Seabees at work. Our first was at Efate, the capital of an is- group under joint British and nch rule (Condominium) where citi- s of two different nationalities live he same communities, each man sub- to the laws of his own country. Na- labor (mostly Polynesian) is con- ted for under terms whereby all pay- nts are made to the head man of the e—what a chance to hold out on e who support the opposition et!

### Rendezvous at sunrise

uadalcanal with its bloody history its hallowed American cemetery, oins an anchorage called "Iron-Bot- Bay" from the number of ships that e been sunk there. We were to leave e Canal," as it is familiarly called, a DE (destroyer escort) which we instructed to board in the outer bor just before sunrise. What we en't told was this would be a rendez- s appointment. Hence we were sur- ed when our launch could find no and we spent an anxious time in the -light before sunrise cruising the r harbor in a vain search. Then all a sudden, there was the DE where a few moments before had been ing at all. She had slipped in si- ly, without lights of course.

f you ever have a chance, don't miss opportunity to board a DE about rise and climb to the lofty bridge coffee with the youngish skipper (in case it was Lt. H. L. Vaughn, Se- ). You'll find a thrill in sensing the er and efficiency of the modern ipment with which these little fight- are provided.

o you remember, when the tide of war with the Japs was turning, the three-picture cartoon entitled "Too lit- tle" "Too late" and then "*Tulagi?*" The DE put us ashore at Tulagi and we re- traced the route followed by our boys who gave point to that cartoon.

We were soon away again, this time by PT boat en route to the Russell Is- lands at a rate of 35 knots. Unlike some of our travels, this trip was under blue skies and over smooth, dark blue water. Part of the way we had an escort of por- poises that put on a superb diving ex- hibition almost within arm's reach of our small group clustered in the bow.

On the larger islands we saw much good timber, particularly a red, fine- grained wood that is very hard and takes an excellent polish. This tree, said to be a kind of mahogany, has a fine straight trunk up to 4 ft. in diameter and some- times 80 ft. or more up to the first limb. There are also other hardwoods—no one knew whether they were teak, rosewood, or what not. But, regardless of species, the Seabees were sawing wood! In one sawmill Claiborne H. (Pop) Merrell, Beaumont, Tex., had an excellent set-up (much of it designed on the job) and was making rough lumber for camp buildings with material that would be too precious in the States to be used more freely than in a thin veneer. But this wood, despite its polishable quali- ties, warps and shrinks unbelievably when subjected to the hot, tropical sun. A roof sheathed with these mahogany boards is not suitable support for tar paper roofing because the shrinkage is enough to break the paper parallel to the sheathing.

### Ice cream in demand

A "Ship's Store Ashore," operated at each base, corresponds to the commis- sary store kept by contractors on many large jobs in the States. The daily open- ing of this store is a social event, par- ticularly in that section (often one en- tire side of the building) where ice cream and other refreshments are sold. For the purchase of these items long queues form. Perhaps nostalgic reasons explain why the best seller is ice cream. It represents home and it definitely is not of the South Seas. This refreshment business is not picayune: one recreation center we visited, which made its own ice cream, on busy days sold as much as 4,239 servings.

### Underwater observations

On several of the islands we saw white coral runways in whose construction tricks have been learned that may well set a standard for future development of coral islands in aerial transport. In a diver's outfit on a coral reef well off- shore, I saw something new in subma- rine excavation that deserves description in detail later.

And so it went through the Florida, Russell, New Georgia and Treasury Is- lands until we came finally to the Allied- held portion of Bougainville, where slant eyes, in concealed vantage points, cer- tainly observed the coming and going of our plane. In three days at the advanced base, right on the front line and close to the enemy, we found construction forces using equipment of regulation size and type with quite the same sys- tematic methods they had employed on the Pennsylvania highway system or at Shasta Dam.

Thus we completed our trip up the Slot and back again by air, and in safety. Now we're on the point of "shoving off" again by plane, headed for construction operations in Australia and New Guinea.

• • •

## Flood causes and cure sought by Los Angeles

Underground water seeping to the surface because existing projects pro- vide for surface drainage only, was cited at a recent meeting of the Joint Com- mittee on Water Problems of the Cali- fornia Legislature as a major cause of the series of damaging floods Los An- geles County has experienced during the past decade.

Spokesmen for several of the thickly settled communities dotting Los Angeles County appeared with an urgent request that greater financial aid be provided by the state to assure both emergency and permanent flood control systems.

M. E. Salisbury, acting head engineer for the Los Angeles Flood Control Dis- trict, declared that the state should help finance flood control in that area. State Engineer Edward Hyatt urged a state law to care for flood problems.

Thirty Federal and state authorities on reclamation and water problems at- tended the meetings held after a two-day tour of Los Angeles County areas which suffered damages during the late Febru- ary rain and snow storm.

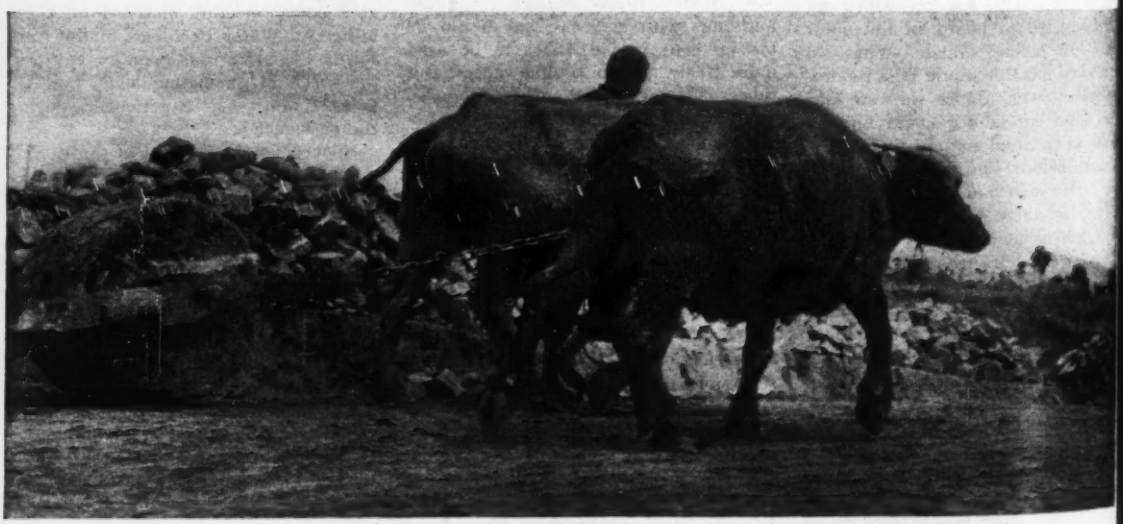
# Manpower Builds China Airbases

Winston Churchill's now famous phrase, "blood, sweat and tears," is nowhere in this global war being so abundantly applied as among China's millions. And, among the Allied Nations, none has accomplished so much with so little. The truth of these statements is amply proved in the photographic illustrations on these pages showing construction of an airbase.

Lacking even the simplest of modern construction tools and equipment, China is utilizing her greatest of all resources, manpower and the human will to win, to provide many strategic airbases and landing fields that will serve well our Pacific forces when they land on China's soil. And land they will, as Admiral Nimitz has promised Lt. Gen. "Uncle Joe" Stillwell.

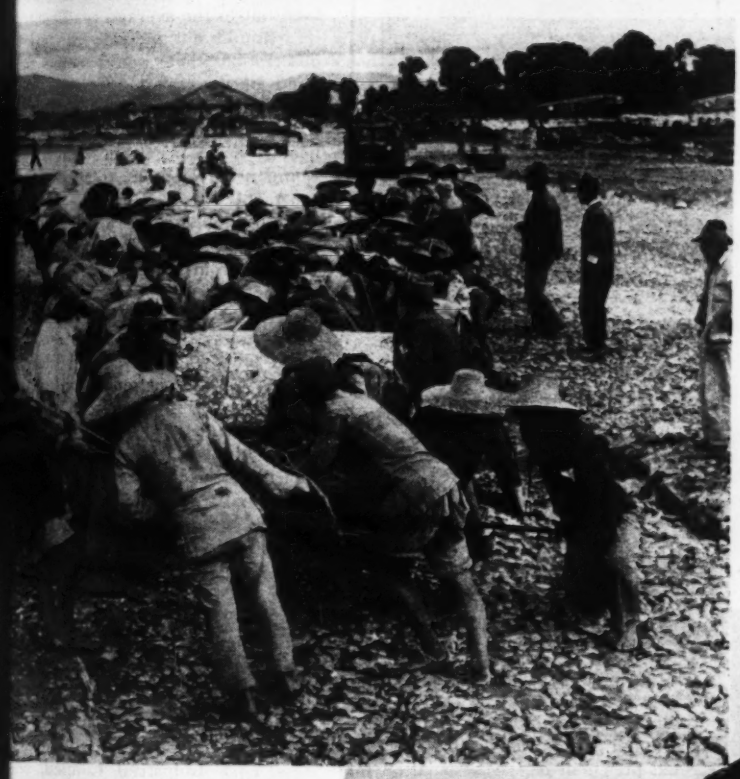
Under the guiding hands of our engineer high command in the China-India-Burma theater—Maj. Gen. Daniel [illegible] Sultan, Maj. Gen. William E. R. Covell, Brig. Gen. Thomas F. Farrell and Col. Lewis A. Pick, (*ENR* Mar. 2, p. 303)—we are assured that every facility that is humanly possible to provide will be ready for the arrival of our troops at the proper time.

***First construction operation is the gathering of stones from nearby hills to be used for landing-strip foundations. They are delivered to the site on rubber-tired, horse-drawn carts.***



***To compact the subgrade for the runways, water buffalo are often used to draw hand-made concrete rollers.***

*After the stone is delivered to the site, it is distributed in baskets and broken up with a sledge hammer into various size aggregate to form the foundation, as shown at the top left. Top right: A slurry of mud and water is being mixed near the site to be used as a binder for the stone.*



*Small stone is spread over the large stones used in the Telford-type base and then is compacted by arduous hand work with the 10-ton roller here shown. Subsequently, a slurry of clay (see above) is used to bind the stone and make a smooth surface for the planes.*

**so many ants building a hill, these ...ies, with their baskets of mud, re- ... their up-and-down trip until the ...tment for protection of the field ... floods is complete.**

## N. J. Sewage Works Association meeting

(*Continued from page* 1)

basis, an industry that contributes a waste equivalent to twice the strength of domestic sewage (New Brunswick sewage strength averages 180 ppm. solids and 15 ppm. chlorine demand) would pay about $42 per million gallons of flow treated.

Postwar planning must have more than relief of unemployment as its objective, said Frank D. Livermore, mayor of Ridgewood, state assemblyman and municipal engineer for three towns in New Jersey. He stated that all planning must be considered as an essential part of coordinated community development, and not solely as a labor-producing mechanism. Furthermore, he urged that engineers and others who prepare postwar plans should make certain that acceptable projects are given an official status by having them incorporated as part of the capital reserve fund in the community's budget. Then, should the governing body change, these plans would be legally assured of continuity of action.

### Much sewerage work

Sewage disposal projects rank high in the list of work being prepared for the postwar period, according to E. L. Filby, field director of the National Committee on Water and Sewage Works Development. Of 33 cities recently surveyed, it was found that 15 plan the construction of sewers, 4 had disposal plants on their agenda, and 5 others were designing both plants and sewerage improvements. Mr. Filby stated that in New Jersey—where 1,569,000 people were employed in 1940—it can be expected that 609,000 (38 percent of the total) will return from the armed services and be released from war production industries. This, he said, pointed to the vital importance of providing public works to meet unemployment demands.

Stating that within the last decade there have been two "high pressure" periods for engineers in preparing designs and plans, Ellson T. Killam, consulting engineer, New York, urged that communities now take advantage of the present lack of activity to have postwar plans completed. He cited the great difficulties under which engineers were forced to work in the depression period, when the availability of federal grants stimulated communities to get projects designed and ready for construction, as well as the more recent emergency war period when "designs were made over the phone and approved after construction."

For low-cost maintenance and operation of municipal utilities, said Mr. Killam, it is absolutely essential that thorough planning precede construction of new facilities.

The symposium was conducted under the chairmanship of L. H. Enslow, editor of *Water Works and Sewerage.*

## Syncopatin' sewage operators

Laying claim to having the only band in the world composed of sewage plant operators, the Joint Meeting Treatment Works in Elizabeth, N. J., added a lively note to the annual meeting of the New Jersey Sewage Works Association in Trenton last week.

Eight plant operators, all of them professional musicians, formed the aggregation that made its debut at the association's dinner session. Playing under the baton of Edward P. Decher, acting chief engineer, they challenged any sewage plant in the country to produce a more harmonious and talented musical group. Here's your chance, boys!

In recognition for an outstanding contribution in research on grease in sewage sludge and scum, Harry W. Gehm, associate, department of water and sewage research, New Brunswick, N. J., was awarded the Harrison P. Eddy award, given by the Federation of Sewage Works Associations. Edward P. Molitor, superintendent of the Madison-Chatham sewage disposal plant, received the Kenneth Allen award for his exceptional service to the New Jersey section of the Federation. Both awards were presented by W. H. Wisely, executive secretary of the Federation.

John Simmerman, superintendent of the Pitman sewage disposal plant, was elected president of the Association for the coming year.

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## Contractor wins suit against road department

The W. H. Knapp Co., Monroe, Mich., road contracting firm, was awarded a $64,962.41 judgment against the Michigan State Highway Department March 11 by the Michigan Court of Claims.

The contractor's suit was based on allegations that soil conditions encountered on a 7½-mile road grading and drainage project in Chippewa and Mackinac counties in 1939 were not clearly indicated by the highway department's plans and specifications.

Judge Charles O. Arch, who wrote the opinion, absolved the department of intent to mislead the contractor, but said that the department "neglected to make available in unmistakable and clear terms" subsoil conditions on the project.

Judge Arch added:

"I felt as I heard the testimony of defendant's witnesses that they were men of the highest caliber, trying to do a good job as they saw it. Nevertheless they were mistaken in the legal duty resting upon their shoulders.

"The testimony shows the use of technical phrases upon the plans which indicate, no doubt, an accurate picture to the mind of a trained soils expert steeped in the work of soil classification, but to the average road contractor they would not indicate the extensive description that would come to the mind of an expert. Consider, as an illustration, the word "loam;" certainly the definition given it by the soil engineer is a far cry from what I believe would be given it by the average road contractor."

Even though all information on the soils, and the descriptive phrases used was on file in the department offices, it was not the duty of the contractor to "go about seeking this information," the opinion declared. It also stated: "The court finds it was the clear legal duty of the department to furnish all the available information in a form and in a manner that would apprise the prospective bidders of the nature of the difficulties to be encountered and in terms that would be readily understood by the average road contractor."

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## AFL and CIO agree to curb disputes

Representatives of the building trades of the American Federation of Labor in New York City and of the Greater New York Industrial Council, central body of the unions affiliated with the Congress of Industrial Organizations, signed Mar. 25 in Mayor La Guardia's office an agreement to create a joint committee on industrial relations to settle jurisdictional disputes.

Seven hundred and fifty thousand workers in the construction and allied fields will be affected by the pact which was hailed by the mayor as a step toward labor peace and likely to encourage the expected expansion of construction in New York after the war.

The agreement provided that all future jurisdictional disputes in the construction and allied industries should be settled "through mediation and other voluntary means."

## Boston engineers hold 96th annual meeting

The 96th annual meeting of the Boston Society of Civil Engineers, the oldest engineering society in the country, with a membership of 800, was held March 22, the president, Howard M. Turner, presiding.

Officers elected for the coming year were: President, Samuel M. Ellsworth, consulting engineer; vice-president, Harry P. Burden, Dean of Engineering, Tufts College; vice-president, Carroll A. Farwell, partner, Fay, Spofford & Thorndike; secretary, Everett N. Hutchings, district waterways engineer, Massachusetts Department of Public Works; treasurer, Chester J. Ginder, senior civil engineer, Metropolitan District Water Supply Commission; directors, Albert E. Kleinert, assistant structural engineer, Massachusetts Department of Public Works, and Henry A. Mohr, district manager, Raymond Concrete Pile Co.

The Desmond FitzGerald Medal was presented to Ralph W. Horne, of Fay, Spofford & Thorndike; hydraulics section prize to Thomas R. Camp, professor of sanitary engineering, Massachusetts Institute of Technology; and the Clemens Herschel Award to William C. White, Dean of Engineering, Northeastern University. Honorary Membership was conferred on Arthur T. Safford, consulting engineer of Lowell.

Mr. Ellsworth, the new president, is a consulting engineer at 6 Beacon Street, Boston. He was graduated from the Massachusetts Institute of Technology, in 1916, and in his early career was connected with the Massachusetts Department of Public Health and the U. S. Public Health Service. Mr. Ellsworth was a lieutenant of engineers in an AEF water supply regiment in World War I, after which he was associated with Morris Knowles, Inc., Pittsburgh, Pa.; Weston & Sampson, Boston consultants; and the New Jersey District Commission on water supply for Newark and other major centers in that area. From 1926 to 1932 he was with Metcalf & Eddy, Boston engineers. Later he entered private practice in the fields of water supply, sewage, waste disposal, and general sanitation. He was consultant for the National Resources Board for New England on river and harbor sanitation; a member of the Boston work projects board; and consultant on water supply and sewerage for the U. S. military reservation at Camp Edwards, Mass. Mr. Ellsworth has also lectured on sanitary engineering design at the Harvard Graduate School of Engineering.

*Bachrach—photo*

**Samuel M. Ellsworth**

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## Ford, Bacon & Davis mark 50th anniversary

Ford, Bacon & Davis, Engineers, New York, celebrated the 50th anniversary of the firm on March 15. The celebration was made the occasion for the presentation of a commemorative medal to George W. Bacon, chairman of the board and a founder of the firm. George H. Davis, another of the founders, participated.

The firm's staff, expanded for the construction and operation of war industries, now numbers about 16,000.

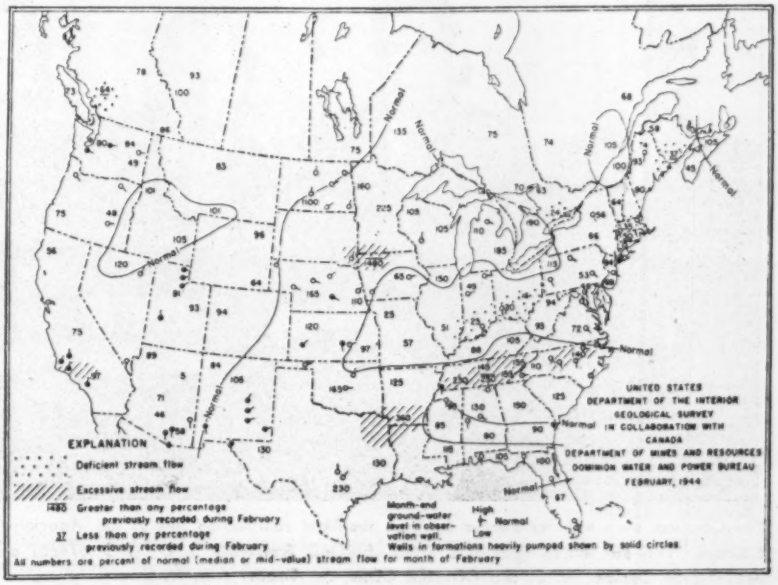
# Stream flow better in Southeast, subnormal elsewhere

The outstanding features of February were the notable improvement in stream flow and power storage in the Southeast, the partial improvement in water supplies throughout the central and east central states, and the continuation of subnormal stream flow throughout the greater part of the western states and in British Columbia.

In the Tennessee Valley the water in storage increased 2½ million ac.ft. and now exceeds that of last year by almost a million ac.ft. Similar improvement was general in the southeastern states.

There was a marked improvement in water supplies throughout the central and east central states. The deficient areas in the East were confined largely to southern New England, southern New Brunswick, and southern Florida. Stream flow continued generally subnormal throughout the western states and in British Columbia but with some tendency toward improvement, especially in California and in the Southwest.

Throughout the plains area from Texas to North Dakota, in the upper Mississippi Valley, in Michigan, and western Ontario stream flow was above normal and the water-supply situation favorable. Withdrawals from storage for power use were heavy throughout Quebec, the northeast and north central states, and in the West. The general outlook for normal or above-normal spring runoff is favorable in the north-central and northeastern regions and unfavorable in the West, especially the Northwest.


EXPLANATION
Deficient stream flow
Excessive stream flow
Greater than any percentage previously recorded during February
Less than any percentage previously recorded during February
Month-end ground-water level in observation well.
High
Normal
Low
Wells in formations heavily pumped shown by solid circles.
All numbers are percent of normal (median or mid-value) stream flow for month of February
UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY IN COLLABORATION WITH CANADA DEPARTMENT OF MINES AND RESOURCES DOMINION WATER AND POWER BUREAU
FEBRUARY, 1944

# MEN AT WORK

*For the past three years employed by the U. S. Engineers in the Panama Canal Zone on the Third Locks project, RALPH WHANNEL, a civil engineer graduate of Cornell College, is now a lieutenant in the U. S. Navy. Lieutenant Whannel worked in Iowa before going to Panama.*

*Latest Wyoming engineer to receive life membership in the American Society of Civil Engineers is WILBUR H. FISHER, bridge engineer, Wyoming State Highway Department since 1928. He has been affiliated with the A.S.C.E. since 1904.*

*Supervision of a large sewer construction program at Bridgeport, Conn., is present job of CHRISTOPHER R. CHISHOLM, construction engineer, Federal Works Agency. Difficult sewer construction projects are not new to Mr. Chisholm.*

*Because of his many years of service, GEORGE H. HENDERSON, principal highway engineer with the Rhode Island State Department of Public Works, is a good source of information about the highways and bridges of his state.*

*The Carolinas were well represented by these top-flight construction men at the Associated General Contractors' 25th annual meeting in Chicago. They are, left to right: F. L. SHACKELFORD, Greenville, S. C.; C. B. STREET and FRANK F. CONNER, Charlotte, N. C.; WM. MUIRHEAD, Durham, N. C. and COLLIER COBB, Jr., Chapel Hill, N. C.*

, COL. SAMUEL G. NEFF, who helped ld Fort Peck Dam, is now district engineer Providence, R. I., for the Corps of Engi-ers.

COMDR. ARTHUR J. BENLINE, C.E.C., U.S.N.R., officer-in-charge of the 70th U. S. Naval Construction Battalion (Seabees) is welcomed back to New York by MAYOR F. H. LAGUARDIA at City Hall, as LIEUT. J. R. KEATING (left) of the Bureau of Yards & Docks looks on.

tstanding among the old-line contractors S. N. NIELSEN, president of the Chicago tracting company bearing his name and ich he founded in 1893. Hale and hearty 86, Mr. Nielsen is busy with his million-llar contract for the construction of two ding units in Chicago's new filtration nt.

Details of runway paving operations at Will Rogers Field, Oklahoma City, by F. R. FITCH, superintendent, L. R. MORAN, partner, and J. R. KEETH, resident engineer for Moran & Buckner, Muskogee, the general contractor.

A big sewer project at Bridgeport, Conn., gets the attention of W. A. GRISCOM (left), resident engineer for the city; FRANK VENTI (center), construction engineer for V. Barletta Co., Boston, the general contractor; and HENRY L. ROWLAND, city engineer.

# Road needs of south central states told to House and Senate committees

***Representatives of the highway departments of Missouri, Arkansas, Oklahoma, and Tennessee present their estimates for extensive repairs and new construction in postwar period.***

At recent hearings before the House and Senate Road Committees several states presented their proposed postwar highway construction programs. Included among them were Missouri, Arkansas, Oklahoma and Tennessee.

Carl W. Brown, chief engineer of the Missouri State Highway Department said his state needs to spend $135,000,000 in the next three years and $263,000,000 in the next ten years. Brown said it would cost $47,000,000 to catch up for the lack of construction since the war started: the rural road system would need $53,400,000 in the next three years and $168,000,000 in the next ten years; city streets need $35,200,000 in three years and $48,000,000 in ten years. He also recommended improving the surfacing on 3,752 miles and widening 1,146 miles of the main highway system, and building 5,000 miles of new rural roads and improving surface on 3,191 miles of existing roads.

Oklahoma's state engineer, H. E. Bailey, and Ben T. Childers, chairman of the Oklahoma State Highway Commission, told the committee that their state needs $210,000,000 "to provide a highway system which will be adequate to meet the future needs and provide a maximum of safety to the traveling public." Highway needs in Tulsa County alone are programmed at $55,900,000. The state-wide program calls for 3,628 miles of high type pavement estimated to cost $97,160,000 and 1,560 miles of intermediate pavement to cost $15,600,000; grading and drainage of 6,190 miles ($37,140,000), 1,268 bridges needed ($5,822,000), and 78 grade separations ($9,728,000).

W. W. Mitchell, Arkansas State Highway Director, and A. E. Johnson of the engineering staff, reported Arkansas needed $225,000,000 "to complete the present state highway system to satisfy current needs disclosed by recent traffic survey data and existing design standards."

The department has programmed 2,165 miles of highways, 20 major bridges and 50 railroad grade separation projects for postwar work estimated to cost $77,000,000.

From Tennessee's State Highway Commission, came the report from C. W. Phillips, chairman, that a recent survey of Tennessee highway conditions showed that a sum of $205,040,000, exclusive of rights of way costs, would be necessary to bring the road system up-to-date, of which $135,645,000 would be for new construction, reconstruction and bridges on both the urban and rural sections of the federal-aid systems within Tennessee.

## Landslide blocks highway near Los Angeles

Fifty-thousand cubic yards of earth plunging down a nearby mountainside and across the entire width of the high-speed roadway, on March 21 blocked a large stretch of southern California's Roosevelt highway near Los Angeles.

Heavy highway equipment was brought into play to clear a one-lane emergency passage for trucks, buses and military vehicles. H. P. Cortelyou, engineer-director of the Los Angeles bureau of maintenance estimated, however, that at least four weeks would elapse before the last remnants of boulders and dirt would be cleared away.

While the cost of removing the sandy earth will be heavy, county highway officials found a degree of satisfaction in the fact that a large quantity of the material will be used to widen nearby public beaches.

## Some construction free from renegotiation

Interpretation of the construction contracts section of the new revenue act was made public March 16 by the War Contracts Price Adjustment Board. The board was created by Title VII of the 1943 Revenue Act—a title commonly referred to as "the Renegotiation Act."

The board has ruled that construction contracts and subcontracts are exempted from renegotiation when all the following conditions exist:

(1) The contract or subcontract is one for the construction of buildings, structures, improvements or other similar facilities. However, subcontracts for the furnishing of materials or supplies or for lease or sale of machinery or equipment are not within the scope of this exemption.

(2) The contract was entered into subsequent to June 30, 1943, and did not constitute a substitute for, or a revision or extension of, an existing contract entered into on or before June 30, 1943.

(3) The work covered by the contract was substantially the same as that for which bids were taken.

(4) Bids were received from two or more contractors, in actual competition with each other.

(5) The contract price was not in excess of the low bid.

Secretaries of the departments to which assignments for renegotiation are made are authorized not only to interpret and apply this exemption, but also to redelegate this authority, and to authorize further redelegation.

The renegotiation provisions apply to the War, Navy, and Treasury departments; Maritime Commission, War Shipping Administration; and four subsidiaries—Defense Supplies Corporation, Defense Plant Corporation, Metals Reserve Company, and Rubber Reserve Company—of the Reconstruction Finance Corporation.

A standard report form for use of construction contractors is expected to be out by the last of March, and will be available from the War Contracts Price Adjustment Board, Room 3 D 571, Pentagon Bldg., Washington, 25, D. C.

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## Many used Army trucks offered to constructors

Ten thousand used army trucks, including many suitable for construction, are to be sold to dealers by the property utilization division of the procurement division of the Treasury. They include dump trucks, stake trucks, pickup, and carry-alls. None are of later than 1941 model. They range from one to seven tons, and are said to be in serviceable condition though not up to military standards.

They will be sold on a competitive bid basis by 11 regional offices, with headquarters in Washington, D. C., New York, Boston, Chicago, Cincinnati, Atlanta, Fort Worth, Denver, Kansas City, San Francisco and Seattle, where, also, descriptive lists are available. It is expected that bids will be taken at the Washington office in early April. They must not exceed OPA ceiling prices.

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## Highway Congress to meet in Lima in July

The Peruvian government has named a committee to organize the Fifth Pan American Highway Congress to be held in Lima during the latter half of July. The last previous session of the congress was held in Mexico City in September 1941.

# JOBS OF THE WEEK

**RUNWAY IMPROVEMENTS, Brookley Field, Ala.**

Wright Construction Co., Columbus, Ga., awarded a contract for runway improvements at Brookley Field, Mobile, by U. S. Engineers, Mobile, at $777,905.

**AIRPORT PAVING, Newburgh, N. Y.**

U. S. Engineers, New York, N. Y., received the lowest bid for airport paving from L. G. DeFelice & Son, Inc., Hamden, Conn., at $1,174,553.

**AIRFIELD, Springfield, Mo.**

Civil Aeronautics Administration, Kansas City, Mo., received the lowest bids for improving airfield from Gustafson & Jarvis Construction Co., Sioux Falls, S. D., at $377,000 and $389,592 on two different schedules; Browtigan Trucco Co., Chicago, Ill., offered lowest bid on Schedule 3 at $147,133; Schedules 5 and 6 low bids were from Peter Kiewit Sons Co., Omaha, Neb. at $870,435 and $1,545, 428; Schedule 8 from Northwestern Engineering Co., Rapid City, S. D., $1,251,411 and Schedule 4 from Koss Construction Co., Chicago, Ill. at $66,474. Ben F. King, Kansas City is the engineer for surveys and designs.

**AIRPORT IMPROVEMENTS, Parkersburg, W. Va.**

Civil Aeronautics Administration, LaGuardia Field, Jackson Heights, N. Y. city, received the lowest bid on excavation and concrete paving from Ralph Meyers Construction Co., Salem, Ind., and Western Contracting Co., Sioux City, Ia., at $1,269,139 and $607,747 respectively; asphalt paving from Allegheny Asphalt & Paving Co., Pittsburgh, Pa., $577,014; S. J. Groves, Ridgefield, N. J., was low on combination of excavation and asphalt paving at $580,798.

**ETHYL ALCOHOL PLANT, Bellingham, Wash.**

Puget Sound Pulp & Paper Co., Bellingham, Wash., awarded a contract for ethyl alcohol production plant to Howard S. Wright & Co., Seattle, Wash. The estimated cost is $900,000.

**MISCELLANEOUS CONSTRUCTION WORK, Newark, Del.**

U. S. Engineers, Washington, D. C., awarded a contract for miscellaneous construction work to Buffalo Gravel Co., Camp Hill, Pa. Estimate: $883,000.

**RAILROAD, Montreal, Que.**

Canadian National Railways, H. A. Dixon, chief engineer, Montreal, Que., awarded a contract to build 15 miles railway line between Eastern Junction and Baut de L'Isle, including bridges and subways, to C. A. Pitts Ltd., Toronto, Ont. The estimated cost is $2,800,000.

**EARTHWORK, Arkansas**

U. S. Engineers, Vicksburg, Miss., have awarded a contract for constructing 3,926,000 cu. yd. of earthwork on the west bank of the Mississippi River in Chicot County to Sternberg Dredging Co., St. Louis, Mo., at $685,700.

**HOUSING, Marietta, Ga.**

Marietta Housing Authority, Marietta, received the lowest bid for constructing frame housing projects, from John A. Johnson Construction Corp., Brooklyn, N. Y., at $995,696; for masonry from Ray M. Lee, Atlanta, Ga., at $1,033,140. Abreu & Robeson and R. R. Nash, Atlanta, are the architects.

**RECREATION BUILDING, New London, Conn.**

Bureau of Yards & Docks, Navy Department, Washington, D. C., received the lowest bid for constructing recreation building, from White Construction Co., New York, N. Y. The low offer was $509,000.

**PLANT BUILDINGS, Cleveland, O.**

George A. Rutherford Co., Cleveland, O., has been awarded contract for altering and constructing additions, including compressor house, crystallizer building, storage, soda recovery building, viscose building, and other work by Industrial Rayon Corp., Cleveland, O. The estimated cost is $2,000,000. Wilbur Watson and Associates, Cleveland, O., are the engineers and architects.

**WATER SUPPLY and IRRIGATION SYSTEMS, Caracas, Venezuela.**

Ministry of Public Works, Caracas, Venezuela, awarded a contract for the construction of water supply and irrigation systems to Johnson, Drake & Piper, Inc., and S. J. Groves & Sons, Co., 86 Trinity Pl., New York, N. Y. The estimated cost is $9,000,000. Parsons, Brinckerhoff, Hogan and Macdonald, New York, N. Y. are the engineers.

Note—Additional bidding and contract news on many projects large and small appear in the Construction section beginning on page 13.

## Land mine damages a welded steel pipe

*The illustration above shows a section of heavy duty welded steel gas pipe line damaged by the detonation of a land mine at Camp Polk, La. The damage was caused by an 8-lb. mine inadvertently placed in the ground about six inches from the pipe.*

*According to Lt. Col. E. H. LeBlanc, post engineer, the explosion of the mine, while damaging the pipe to the extent shown in the picture, did not cause any leakage of gas whatever although at the time a pressure of 400 psi. of natural gas was carried in the line. Repairs were made by E. A. Rathburn, gas and gasoline superintendent, with no interruption of service to North Camp Polk served by this line. The cut in the line was made between 1 and 4 a.m, when the pressure was 75 lb. and gas consumption was at the minimum.*

*Shown in the picture are: Standing in center, Lt. Col. E. H. LeBlanc, post engineer, and, left, J. J. Krebs, senior engineer, and right, Capt. W. A. McElroy, assistant post engineer.*

## Flood control studied by Illinois commission

Ray Tilly, road superintendent of Sangamon County, Springfield, Ill., has been named chief technical investigator for the Illinois legislature's flood control investigating commission. Jacob A. Harman of Peoria will be his consultant.

The commission created by the last state legislature, is composed of ten legislators and the director of public works and buildings, Walter A. Rosenfield. It will make flood control studies of levees and drainage districts and will report to the next legislature on recommended changes.

## OBITUARY

**George B. Downs,** 73, who retired from the Ohio Fuel Gas Co. of Toledo, Ohio, in 1937, died Mar. 16 in Toledo. Downs was with the company for 48 years, serving as construction superintendent most of that time.

**Fred J. Bliss,** 73, former building inspector for Hartford, Conn., and a prominent contractor, died at West Hartford on Mar. 14.

**David J. Lawlor,** 58, chief construction engineer at Bradley Field, Windsor Locks, Conn., died there Mar. 13.

**Herbert L. Conlin,** 57, prominent builder and contractor of Toronto, Ont., died recently.

**Charles William Landis,** 67, of Cranford, N. J., contracting engineer for the United States Steel Export Co. died Mar. 20. Mr. Landis was graduated in 1900 from Cornell University as a civil engineer, became a draftsman and later construction engineer for the McClintic-Marshall Construction Co. at Pottstown, Pa. After that he went to New York as a designing engineer for the American Bridge Co.

**A. E. Owen,** 68, chief engineer for the Central Railroad of New Jersey, died at Bound Brook, N. J., Mar. 21. Mr. Owen, who lived in Abington, Pa., had worked for the railroad for 45 years. He was chief engineer of the lines for 27 years, also serving simultaneously, from 1938 to 1943, as chief engineer for the Reading Railroad.

**Vernon V. Rittelmeyer,** 58, for 40 years active in building contracting in Memphis, Tenn., died Mar. 14. Mr. Rittelmeyer's most recent project was the Mignon Terrace and Norriswood Subdivision. In the last war he was awarded a citation for his work on the Muscle Shoals Nitrate Plant in Alabama. For the past year he has been engaged in government work.

**Hugh R. Rogers,** 65, city engineer at Salem, Ore., for 20 years, died March 10. A native of Wisconsin, Rogers went west in 1909. He served as deputy in the engineer's office for several years before being appointed city engineer in 1919, retiring in 1939.

**Harry A. Hageman,** 66, former chief design engineer for the Tennessee Valley Authority, and building commissioner at Newtown, Mass., died Mar. 23. Mr. Hageman was graduated from Cornell University in 1899. During the first World War he was in charge of construction at Fore River and later was associated with Stone & Webster for many years as a hydraulic engineer. In 1936, he took the TVA post at Knoxville, Tenn. He retired two years ago.

**W. T. Burris,** 65, a pioneer paving contractor of Missouri, died Mar. 10 at Joplin. He had done a large amount of paving in Kansas and Arkansas as well as in Missouri.

**W. L. Craven,** 66, of Raleigh, N. C., for 28 years chief bridge engineer of the North Carolina Highway and Public Works Commission, died Mar. 23 at Durham. A native of Concord, N. C., he received his civil engineering degree from North Carolina State College in 1901. He organized the bridge department in 1916. He had located, designed, constructed and maintained 15,000 state highway bridges.

**Fred E. Ammann,** 46, engineer in the U. S. Public Roads Administration, died Mar. 17. A graduate of Colorado College with degrees of civil and mechanical engineering, he lived in Denver, Colo.

**Nelson E. Gray,** 80, retired building contractor at Arlington, Mass., died there on Mar. 23.

**E. L. Brown,** 46, city engineer at Coffeyville, Kan., since 1927, died recently. A graduate of the University of Kansas, he served with the 110th Engineer Battalion overseas in the first world war.

## CONTRACTS AND CAPITAL

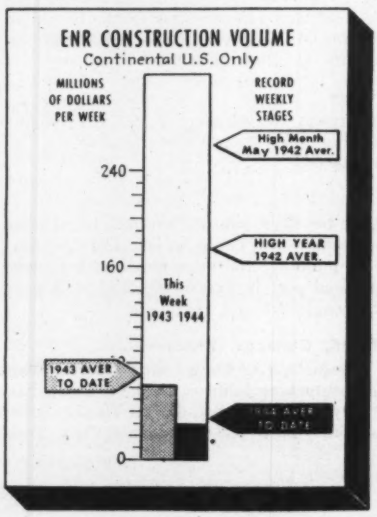
CIVIL ENGINEERING construction volume in continental U. S. totals $29,412,000 for the week. This volume, not including construction by military engineers abroad, American contracts outside the country, and shipbuilding, is 11 percent lower than in the preceding week, and 52 percent below the volume reported for the corresponding week in 1943.

Private construction tops last week by 217 percent, but is 29 percent under last year. Public work is 35 and 59 percent lower, respectively, than a week ago and a year ago.

The current week's volume brings 1944 construction to $450,122,000 for the thirteen weeks of the year, a decrease of 50 percent from the $900,430,000 reported for the period in 1943. Private construction, $98,340,000, is 2 percent above a year ago, but public work, $351,782,000, is down 56 percent as a result of the 59 percent decline in federal volume.

In the classified construction groups gains over last week are in waterworks, sewerage, bridges, industrial and commercial buildings, and streets and roads. Increases over the 1943 week are in industrial buildings, and earthwork and drainage.

New capital for construction purposes for the week totals $4,405,000, and is made up of $2,640,000 in state and municipal bond sales, and $1,765,000 in RFC loans for industrial improvements. The week's new financing brings 1944 volume to $181,638,000, an increase of 184 percent over the $64,105,000 reported for the thirteen weeks of 1943.




### CONTRACTS

**Continental U. S. Only**
**(Thousand of Dollars)**

| | Week Ending Apr. 1 1943 | Mar. 23 1944 | Mar. 1944 |
|---|---|---|---|
| Federal | $42,587 | $27,374 | $16,9 |
| State & Municipal | 4,350 | 2,299 | 2,2 |
| Total public. | $46,937 | $29,673 | $19,1 |
| Total private. | 14,452 | 3,236 | 10,2 |
| TOTAL | $61,389 | $32,909 | $29,4 |
| Cumulative 1944 | (13 weeks) | | $450,1 |
| 1943 | (13 weeks) | | $900,4 |

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

### NEW PRODUCTIVE CAPITAL

| | 1943 13 weeks | Cumulative 1944 13 weeks |
|---|---|---|
| NON-FEDERAL | $64,105 | $90,8 |
| Corp. Securities | 1,250 | 53,7 |
| State & Mun. | 58,267 | 30,0 |
| RFC Loans | 1,500 | 7,0 |
| FPHA Loans | 3,088 | |
| FEDERAL | | $90,8 |
| TOTAL CAPITAL | $64,105 | $181,6 |

### ENR INDEX NUMBERS

| Index base=100 | | 1913 | 192 |
|---|---|---|---|
| Construction Cost | Mar. '44 | 295.34 | 141. |
| Building Cost | Mar. '44 | 232.32 | 125. |
| Volume | Feb. '44 | 86. | 38. |

# CONSTRUCTION REPORTS

*Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York*
*ELSIE EAVES, Manager* *SCOTT McLEOD, Statistician*
**(Daily service also available—Write for details)**

## WATER SUPPLY

**OPOSED WORK**

**...ado., Aurora**—City, exten. 8,285 ft., 12 ... 6 in. c.i. water sys. $40,000. C. H. ...erly, 1441 Welton St., Denver, engr.

**..., Elmwood**—Made plans water supply ...rehabilitation incl. well or wells, supply ... elevated storage tank in west end of ... and water treatment, $65,000. L. A. ...er, Streator, engr.

**...a., Lawrence**—City, H. C. Fisher, clk. ...v., exten. water sys., incl. cooling tower, ...p wells, well houses, water lines, $310,- ... Black & Veatch, 4706 Bway., Kansas ... Mo., engrs.

**..., Louisville**—B. F. Goodrich Co., 500 ...Main St., Akron, O., water softening ...t. Havens & Emerson, Leader Bldg., ...eland, O., consult. engrs.

**...ch., Escanaba**—City, G. E. Bean, mgr., ... Hall, plans and specifications author- ...for 500,000 gal. water tank. $60,000.

**...Tex., Houston**—Harris Co. Fresh Water ...Dist. 5, Market St., enlargement, imprv. ...r supply district, Tex. 41-664F, $700,000, ...J. C. Calhoun, Jr., Houston Merchant ... Bldg., engr. CD 2/3—ENR 2/10.

**...s., Houston**—Harris Co. Fresh Water ...y Dist. 14, water sys., Tex. 41-598, ...$1,... FWA. Garrett Engineering Co., 1806 ...n St., engrs. CD 3/22.

**...C., Wildwood**—Wildwood Light Dist., ... Hanson, secy., plans gravity type ...r system piping water from Shiammon ...umping water from One-Mile Bay on ...ll Lake. $35,000 or over.

**...S., New Glasgow**—Municipality, c/o ...Madden, clk., 4½ mi. water pressure ...line. $100,000.

**...e., Ste. Adele**—Town, C. H. Grignon, ...r repairing and extending aqueduct. ...00.

**...ASKED**

*Bids Asked April 4*

**...Y., New York**—Comr. Water Supply, ...& Electricity, Municipal Bldg., Zone ...sealing, laying watermains, appurten- ...Morningside Ave., La Salle and 147 ...Plans deposit $1.

*Bids Asked April 6*

**..., New Orleans**—Sewerage & Water Bd., ...Carondelet St., Zone 1, furnishing, lay- ...approx. 3,000 lin. ft. 6 in. and 350 lin. ...in. c.i. watermains, Contr. 239-W.

*Bids Asked April 10*

**...C., North Charleston**—U. S. Eng., 33 ...mhouse, Charleston, addnl. water sup- ...station area No. 2.

**...BIDDERS**

**...lif., Benicia**—U. S. Eng., 74 New Mont- ...ry St., San Francisco, relocation of ... lines at Benicia Arsenal, Spec. 1333-1 ...olte, Inc., 8451 San Leandro St., Oak- ...$29,562.

**...lif., San Diego** — Federal Works ...y, 252 Spreckles-Theater Bldg., Mar. ...Dyke Pipeline, Calif. 4-140, Unit 13, ...American Pipe & Constr. Co., 4635 ...one Blvd., South Gate (1) $90,245 (2) ...62. CD 3/25/42—ENR 5/28/42.

**...., Houston**—City, Mar. 8, water lines ...throp and Hillsboro Sts., from Brown ...ot, Inc., Box 3, $18,723. CD 3/2.

**...., Odessa**—City, c/o L. L. Anthony, ...18, WW imprvs., incl. waterlines, sur- ...tank, pumps and pumphouse, from F. ...eves & Son, 3400 Post Rd., Austin, and ...$106,496. J. E. Ward, Harvey-Snider ... Wichita Falls, engr.

**...TRACTS AWARDED**

**...Dublin**—City, M. A. Rogers, clk., City ...water facilities to Murray-Cook Co., ... Vista, $19,518. Bids 3/15.

**...., Lethbridge** — Municipality, 600,000 ...concrete reservoir, day labor. $20,000. ...inea, City Hall, engr.

**...., Kingston**—C. C. Folger, mgr. Pub. ...s Comn., 7 Queen St., 20 in. water- ...Union St., to Holdcroft Constr. Co. ...33 William St. Est. $20,000. Bids 2/28. ...—ENR 3/2.

Location of ENR Correspondents

***Symbols and Abbreviations Include:***

† Federal Government
★ Project of $500,000 or over.
**ENR** Engineering News-Record
**CD** Engineering News-Record Construction Daily
**A-E-M** Architect-Engineer-Management type of contract

***Projects—By Size***

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

***Classes of Construction***

(Named in order of Listing)

| | |
|---|---|
| **Water Supply** | Unclassified |
| **Sewers, Waste Disposal** | Latin America |
| **Bridges** | Public Buildings |
| **Streets & Roads** | Commercial Buildings |
| **Earthwork, Waterways** | Industrial Buildings |

***Stages Reported***

PROPOSED: (except Streets & Roads);
BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR):
LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.
CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.
**Note:** To comply with censorship requirements, addresses on some reports are being generalized. Data which would reveal the purpose of the improvements and the size are withheld. The name of contractor and general area are reported.

## SEWERS, WASTE DISPOSAL

**PROPOSED WORK**

**Ill., Depue**—E. A. Hasse, village pres., exten. sanitary sewerage sys. in eastern section town, $35,000. Alvord, Burdick & Howson, 20 N. Wacker Dr., Chicago, engrs.

**Mich., Bay City**—City, retained Francis Engineering Co., 303 Eddy Bldg., Saginaw, to prepare plans for sanitary sewers and sanitary interceptor sewer, $450,000.

★**†Tex., Houston**—Harris Co. Fresh Water Dist. 5, Market St., expansion sanitary and storm sewerage sys., Tex. 41-564 F, $827,000. **FWA.** J. C. Calhoun, Jr., Merchant Exchange Bldg., engr. CD 2/10—ENR 2/17.

**BIDS ASKED**

*Bids Asked April 4*

**N. Y., New York**—President Bronx Boro, Bronx County Bldg., 851 Grand Concourse, New York, Zone 51, sewer, appurtenances Astor Ave., and in Esplanade (west side).

*Bids Asked April 6*

**La., New Orleans**—Sewerage & Water Bd., 526 Carondelet St., Zone 1, Contr. 149-S, furnishing, laying, approx. 250 lin. ft. 10 in. and 3,600 lin. ft. 8 in. concrete pipe sewers, 2,100 lin. ft. 6 in. concrete pipe sewer house connections.

*Bids Asked April 18*

**Calif., Los Angeles** — Bd. Supervs., Los Angeles Co., Hall of Records, sanitary sewer in El Selinda Ave., etc., C I 1083. Over $25,000. A. Jones, Hall of Records, engr.

**LOW BIDDERS**

**†Calif., Arlington**—U. S. Eng., 751 S. Figueroa St., Los Angeles, Zone 14, Mar. 20, sewage treatment plant alterations No. 516, from Shipyard Constr. Co., 2609 Cherry Ave., Long Beach, $59,445.

**Calif., San Diego**—City Clerk, Civic Center Bldg., Mar. 21, part of Trunk Sewer 4 in West Point Loma Blvd., from B. G. Carroll, 2260 Main St., $68,270.

**CONTRACTS AWARDED**

**†Calif., El Cerrito**—Stege Sanitary Dist., Manila St. and San Pablo Ave., sewer release main in Fairmont and Central Aves. to Richmond Annex, Calif. 4524, to Stolte, Inc., 8451 San Leandro St., Oakland, $102,397. FWA. E. K. Hussey, Syndicate Bldg., Oakland, dist. engr. CD 11/12/42—ENR 11/19/42.

**N. J., Hillside**—Town, Town Hall, storm drains and catch basins and appurtenances on Harvard, Yale Aves., and Carnell Place to Guy Villa & Sons, 995 Central Ave., Westfield, $25,000.

**†Tex., Corpus Christi**—Federal Works Agency, 702 Electric Bldg., Fort Worth, imprv. sewage disposal plant, Tex. 41-174F, Contr. 2, to Aikin & Hinman, Box 2350, approx. $25,000. Bids 3/10. CD 2/15—ENR 2/17.

**†Utah, Layton**—Town, c/o Town Clerk, sanitary sewerage sys. extens., to H. Lee, 118 West 5th South St., Salt Lake City, $100,372. FWA. Bids 3/6. Caldwell & Richards, Templeton Bldg., Salt Lake City, engrs.

**N. S., Halifax**—Municipality, sewer construction in Marlborough Woods Sect. Day Labor. $27,650. R. M. MacKinnon, City Hall, works comr. and engr.

**Que., Lac Edouard**—Lac Edouard Sanatorium Corp., Lac Edouard, sewerage sys., day labor. $25,000. W. Lacroix, 132 St. Peter St., Quebec City, engr. CD 2/18.

## BRIDGES

**PROPOSED WORK**

**Conn., Norwalk**—City, Mayor's Office, City Hall, storm sewers in Norwalk and Winfield, incl. Scofield Pl., Bridge St. and South Melrose Square, $25,000.

**Ill., Depue**—E. A. Hasse, village pres., City Hall, bridge crossing Depue and Northern R.R. on Marquette St. $30,000.

★**North Carolina**—State Hy. & P. Wks. Comn., Raleigh, Proj. 1111, causeway, $500,000. W. V. Baise, state hy. engr.

**B. C., New Westminster**—Evans Products Co. Ltd., New Westminster, trestle, etc. $40,000.

**Ont., Alexandria** — Municipality, P. A. Charlebois, clk., 3 rein.-con. bridges. $30,000.

**Ont., Toronto** — Toronto Transportation Comn., 35 Yonge St., subway. $100,000. N. D. Wilson, associated with owner's staff, 388 Yonge St., engr.

**Que., Quebec City**—Municipality, c/o F. X. Chouinard, city clk., bridge construction in Sacre Coeur Parish. Two plans prepared, one estimated at $333,000, other $415,000. E. Hamel, City Hall, engr.

**Que., Ste. Angele De Laval**—Province of Quebec, Quebec City, bridge over St. Laurence River. $400,000. O. Desjardins, Dpt. P. Wks., Quebec City, engr.

**BIDS ASKED**

*Bids Asked April 1*

**Que., St. Edwidge**—Municipality, E. Martineau, clk., bridge, O. Desjardins, Dpt. P. Wks., Quebec City, engr.

BRIDGES (Bids Asked, Cont'd.)

*Bids Asked April 6*

**Ill., Cairo**—D. E. Ball, Co. supt., Cairo, two 50 ft. and one 65 ft., steel I-beam bridge spans. Plans deposit $25.

*Bids Asked April 11*

**Florida**—J. A. Johnson, chrm., State Road Dpt., Tallahassee, one 165 ft. concrete bridge, sand bituminous road mix paving, etc., Road No. 79, State Jobs Nos. 1011-103 and 1012-102, Hillsborough Co. $140,000. Plans deposit $5. J. H. Dowling, Tallahassee, state hy. engr.

*Bids Asked April 11*

**Ohio**—State Hy. Dpt., Columbus, repairing, replacing 0.152 mi. existing bridge structure over Lake Milton on Sect. W of SH 18, Mahoning Co., $30,780; 0.152 mi. grading, drainage structures salvaged brick surface course paving and re-erecting steel through truss bridge with concrete deck and substructure and 2 timber approach spans on timber substructure over Hocking River on Sect. Nelsonville of SH 597, Athens Co., $60,500.

*Bids Asked April 11*

**Wisconsin**—State Hy. Comn., Madison, superstructure for Bridge 538, The Junction City-Dancy-Knowlton Rd., F. A. S. P. FAS-622-a (2), State Trunk Hy. 34, Portage Co.; superstructure for Bridge 234, The Blair-Merrillan Rd.; Alma Center-Merrillan Rd., F. A. P. 755-C (1), State Trunk Hy. 95, Jackson Co. E. L. Roettiger, state hy. engr.

**LOW BIDDERS**

**California**—State Div. Hys., 808 State Bldg., Los Angeles, Mar. 16, rein.-con. bridge over San Diego River, San Diego Co., from Ralph O. Dixon, 3901 Medford St., Los Angeles, **$151,914.** G. T. McCoy, state hy. engr. CD 2/25—ENR 3/2.

**Calif., Los Angeles**—City, Mar. 15, Reseda Blvd. and Lindley Ave. bridges over Los Angeles River, from C. J. Paradis, 2320 Idell St., **$24,727.** Est. $25,650. CD 3/7.

**CONTRACTS AWARDED**

**Quebec**—Province of Quebec, Quebec City, bridge over Du Chene River, Val Alain, to Beaudet-Bergeron & Boucher, 77 Charest Blvd., Quebec City, est. **$25,000;** bridge over Becancour River, St. Louis de Blanford, to Langelier & Thibone, St. Victor, est. **$25,000.** O Desjardins, Dpt. P. Wks., Quebec City, engr.

# STREETS AND ROADS

**BIDS ASKED**

*Bids Asked April 4*

**Iowa**—State Hy. Comm., Ames, maintenance resurfacing 11.6 mi., Iowa 60 from Missouri to Streepyville, 10.0 mi. Iowa 142 from Missouri to Iowa 2, 5.6 mi. Iowa 369 from Unionville to Iowa 2, M-5255, Appanoose Co.; 4.5 mi., Iowa 204 from Garden Grove to Iowa 2, M-4281, Decatur Co.; 11.2 mi. Iowa 21 from Powishiek Co. to Iowa 92, 17.0 mi., Iowa 22 from Webster to Iowa 21 and from South English to Washington Co.; 0.8 mi., Iowa 108 from Delta to Iowa 92, 10.7 mi. Iowa 77 from Richland to Iowa 92, 7.6 mi. Iowa 304 from Ollie to Iowa 149, M-5262, Keokuk Co.; 3.2 mi. Iowa 16 from Augusta to U. S. 61, 3.0 mi. Iowa 16 from U. S. 218 to 3.0 mi. east, 7.8 mi. Iowa 88 from Denmark to Ft. Madison, M-5256, Lee Co.; 10.7 mi. U. S. 65 from Wayne Co. to U. S. 34 and Iowa 306 from Derby to U. S. 65 7.5 mi., Iowa 14 from Wayne Co. to Chariton, M-5253, Lucas Co.; 4.7 mi., Iowa 137 from Eddyville north, M-5257, Mohaska Co.; 5.6 mi. Iowa 242 from Silver City to U. S. 34, M-4279, Mills Co.; 17.5 mi., Iowa 183 from Harrison Co. to Ute, 14.3 mi. Iowa 37 from Soldier to Crawford Co. and from Monona Co. to Dunlap, M-3309 Monona and Crawford Counties; 4.2 mi. Iowa 25 from Iowa 2 to Iowa 357, 7.5 mi. Iowa 49 from Iowa 319 to 4 mi. east of Sharpsburg, 6.8 mi. Iowa 319 from Conway to Iowa 148, M-4280, Taylor Co.; 7.0 mi. Iowa 66 from Diagonal to Iowa 2, 15.7 mi. U. S. 169 from Missouri to Iowa 2, M-4282, Ringgold Co.; 5.0 mi. Iowa 16 from Selma to Iowa 98, M-5258, Van Buren Co.; 12.8 mi. U. S. 65 from Lineville to Iowa 2, 7.6 mi. Iowa 14 from Lucas Co. to Section 7-69-21, M-5259, Wayne Co.; maintenance cover aggregate 1,030 cu. yd. on Iowa 92 from Fontanelle to Cass Co. and on Iowa 189 from Bridgewater to Iowa 92, M-4278, Adair Co.; maintenance bituminous surfacing Div. II and III on streets and roads State M S-5; maintenance materials.

**Ia., Iowa City**—Bd. Supervs. Johnson Co., Court House, Iowa City, furnishing 279,847 gal. MC1, MC2 or MC3, cutback asphalt f.o.b. cars at various unloading points, heating, unloading, transporting, and applying 279,847 gal. MC1, MC2 or MC3 cutback asphalt to road surfaces, etc. Over $25,000. R. H. Justen, Iowa City, co. engr.

**Maryland**—State Roads Comn., Baltimore, Contr. SM-253-3-566, seeding and mulching 18.51 mi., section hy, along Three North Rd., St. Marys Co.

*Bids Asked April 5*

**Louisiana**—D. Y. Smith, dir., Dpt. Hys., Baton Rouge, 4,500 cu. yd. sand clay gravel surfacing material to be spot dumped on certain roads, S.P. No. 703-00-87, Vernon Parish.

**N. J., Fort Lee**—Boro of Fort Lee, Boro Hall, penetration macadam on macadam paving, 3,652 sq.yd., Fletcher Ave. McClave & McClave, 600 Gorge Rd., Cliffside Pk., engrs.

*Bids Asked April 7*

**Kansas**—State Hy. Dpt., Greensburg, single asphalt surface treatment 10.318 mi., No. 5642, Sedgwick Co. R. C. Keeling, Topeka, state hy. engr.

*Bids Asked April 11*

**Florida**—T. A. Johnson, chr., State Rd. Dpt., Tallahassee, reworking and widening existing lime rock base and bituminous retread surfacing course, 8,607 mi., Road No. 3 between St. Johns River and Deland, State Job. No. 7904-106, Volusia Co.; applying bituminous retreatment on 1.660 mi. and constructing bituminous retread surface course 3.060 mi., from State Rd. No. 203 to point in Sanford, State Job No. 7701-106, Seminole Co., $160,000; sand bituminous mix paving 8.278 mi., Road No. 27 from Bonita Springs to Estero, Lee Co., $70,000. Plans deposit $5 each. J. H. Dowling, state hy. engr.

**Ia., Mason City**—Bd. Supervs. Cerro Gordo Co., Court House, prepare and place maintenance gravel from county owned pits on roads involving 44,600 cu. yd. gravel and 366,800½ mile units of haul. Over $25,000. R. E. Robertson, Mason City, co. engr.

*Bids Asked April 11*

★**Ohio**—State Hy. Dpt., Columbus, grading, drainage structures, asphaltic concrete widening and resurfacing and asphaltic concrete on stabilized surface course paving 2.182 mi. Dryden-Elby Rd., Montgomery Co., $115,700; asphaltic concrete resurfacing 5.287 mi. Sects. H, A and I of SH 129 and Sects. C-1 and B of SH 134, Allen Co., $66,-350; 1.318 mi. Sect. A of SH 369, Carroll Co., $15,440; 6.75 mi. Sect. E of SH B-2 and B-1a of SH 502, Columbiana Co., $80,-800; 4.018 mi. Sect. F of SH 407, Coshocton Co., $66,800; 2.206 mi. on Sects. H-2 and H-3 of SH 26, US 22, Jefferson Co., $23,360; 3.037 mi. Sects. A, F and G of SH 339 and 993, US 36, $27,200; 0.361 mi. Sect. Caldwell of SH 353, US 21, Noble Co., $8,300; 3.867 mi. Sects. J and H of SH 52, Ottawa Co., $81,-100; 3.387 mi. Sect. C of SH 180, US 127, Preble Co., $55,900; 9.599 mi. Sects. F and Plain City of SH 241, US 42, $99,100; 8.049 mi. Sects. F and E of SH 228, $98,400, both Union Co.; 2.156 mi. Sects. D and O of SH 21, US 20, William Co., $34,150; bituminous treatment 36.5 mi. various sections SH Nos. 306, 537, 303, 581, 311, 297, 307 and 305, Fulton and Williams Counties, $50,928; 32.62 mi. SH Nos. 1, 107, 484, 519 and 575, Guernsey and Muskingum Counties, $60,183; 34 mi. SH Nos. 118, 117, 111, 236 and 714, Marion and Union Counties, $36,092; 27.2 mi. SH Nos. 108, 385 and 392, Monroe and Noble Counties, $50,658; furnishing asphaltic concrete as per plan 1.27 mi. Sect. Dennison of SH 370 and 506, US 36 and 250, Tuscarawas Co., $12,991.

**Pa., Pittsburgh**—Bd. Comrs. Allegheny Co., R. G. Woodside, comptroller, Court House, 1,400 ft. concrete repaving and drainage, Greensburg Pike, Turtle Creek Boro and Wilkins Twp. $111,200. Bids 2/23 rejected. Levi Burd Duff, County Office Bldg., engrs. CD 2/9—ENR 2/10.

**Wisconsin**—State Hy Comn., Madison, gravel or crushed stone traffic bound surfacing course, etc., 6.2 mi., Lathrop Ave.-U. S. H. 41 road, S.P. 2642, State Trunk Hy. 20, Racine Co. E. L. Roettiger, state hy. engr.

*Bids Asked April 12*

**California**—State Div. Hys., G. T. McCoy, engr., Sacramento, repairing with imported borrow, untreated rock base and plant mix surfacing portions only about 13.1 mi. between San Joaquin Co. line and Crows Landing and between San Joaquin Co. line and Modesto, Stanislaus and San Joaquin Counties; imported base material furnished and placed and seal coat applied 4.4 mi. between Wendling and Sonoma Co. line, Mendocino Co.; repairing with plant mix surfacing 5.9 mi. portions hy. between Bretona and Genevra, Yolo and Colusa Counties; 16.7 mi. between 3 mi. east of Paynes Creek and Mineral, Tehama Co.

**Kansas**—State Hy. Dpt., Phillipsburg, single asphalt surfacing 9.94 mi. Road 3744, Decatur Co.; 1.293 mi. Rd. 3765, Ellis Co.; 19.057 mi. Rd. 3745, Grove Co.; 4.4 mi. Rd. 3746, Graham Co.; 11.4 mi. Rd. 3747, Logan Co.; 4 mi. Rd., 3763 and 2.195 mi. Rd. 3766, both Trego Co.; 4.356 mi. Rd. 3750, 7.581 mi. Rd. 3748, 0.512 mi. 3751 and 13.987 mi. 3749, all foregoing Norton Co.; 6.744 mi. Rd. 3752 A-B, Osborne Co.; 32.28 mi. Rd. 3753 and 17.732 mi. road 3754, both Phillips Co.; 13.435 mi. Rd. 3755 AB and 17.886 mi. Rd. 3756, both Rawlins Co.; 17.3 mi. Rd. 3757 Rooks Co.; 15.523 mi. Rd. 3760, and 4.795 mi. Rd. 3758 and 2.69 mi. Rd. 3759, both Russell Co.; 2.09 mi. Rd. 3761, Smith Co.; 11.492 mi. Rd. 3762, Thomas Co.; 27.340 mi. Rd. 3764, ABCD, Wallace Co. R. C. Keeling, Phillipsburg, engr.

*Bids Asked Apri 12*

**California**—State Div. Hys., G. T. Mc Coy, engr., State Bldg., Los Angeles, pairing by placing plant mix surfacing on the existing surfacing and imported borr on shoulders 7½ mi. between approx. east of Newberry and 3½ mi. west of R tor, V111-SBD 58-G, San Bernardino grading, asphaltic concrete and conc paving about 1 mi. between Pacific Hy. Washington St., XL-SD-Douglass St. San Diego Co.

†**N. Y., Plattsburg**—J. J. Coffey, Hys. Clinton Co., in Chambers of Supervs., Surrogate's Bldg., 133 Marra St., completing 4.48 mi. access road State Route No. 22 westerly to State R No. 22 B, War Pub. Wks. Proj. No. N 30-251. Plans deposit $5; adv. ENR 3/30.

*Bids Asked April 18*

†**N. Y., Schuyler Falls**—Dellas Trom Town Supt. of Hys., in Chambers of Supervs., Surrogate's Bldg., 133 Marra St., Plattsburg, completing 1.72 mi. ac road from State Route No. 22 B, west to east boundary of Macomb Reserva War Pub. Wks. Project N.Y. 30-257. P deposit $5; adv. ENR 3/30.

*Bids Asked*

**Iowa**—State Hy. Comn., Ames, rejected bids Mar. 21, imprv. M-1274, Div. II, Ja Co.; 15.9 mi. M-1278, Polk Co.; 102 MS-5; 25.2 mi. M-1275, Poweshiek M-1276, Tama Co. CD 3/14—ENR 3/16.

*Bids Asked In July Or August*

**Ill., East St. Louis**—City, L. J. Dough street comr., City Hall, resurfacing P St., Trendley to Spring Ave. and West B way. Eads Bridge approach to Front St tearing up present paving and laying concrete from curb to curb on Collins Ave., Bway. to Summit Ave. $272,000

**LOW BIDDERS**

★**Md., Baltimore**—Bd. Awards, City H Mar. 17, sheet aphalt paving re Western Dist., from Baltimore Ave Block & Tile Co., 1320 N. Monroe St. 408; in Eastern Dist., from American ing & Contg. Co., 2525 Loch Raven **$254,149.**

★**N. Y., Newburgh**—U. S. Eng., 120 St., New York, Zone 5, Mar. 24, pav from L. G. DeFelice & Son, Inc., 1817 well Ave., Hamden, Conn., **$1,174,553.** 3/14—ENR 3/16.

**Ohio**—State Highway Department, Col bus, O., March 24, from Ohio Road Inc Co., 341 Chamber of Commerce B Columbus, asphaltic concrete surfa 6.053 mi. Sect. C-2 and C-2A, SH 6 U. S. 33 **$53,942;** 2.083 mi. Sect. Norwa SH 289 and 290 U. S. 20, Huron Co. 15.69 mi. SH 646, 288, 314, 531, 254 and Erie, Ferran, Medina and Huron Coun **$34,266*****from Fenton Constr. Co., Box Ashland, O., 23.71 mi. SH 143, 148, 4 145, Ashland and Richland Counties 10.92 mi. SH 70, 369, and 762, Tuscara and Carroll Counties **$27,275;** 20.07 mi No. 643, 845, 24 and 141, in Medina Wayne Counties **$36,375*****from Eas Engineering Constructors, Main St., Bel 0.197 mi. rein.-con. retaining walls on A and New Alexandria SH 379, Jefferso **$30,587;** grading, drainage structures, cadam on concrete paving, bridge Cedar Lick Run on Sect. K-3 SH 26, 22, Jefferson Co. **$25,689*****from F. R. ger, Maple Ave., Liberty Center, O. ***from Garaux Bros. Co., 415 9th Canton, brick surfacing 0.754 mi. C SH 68, U. S. 30, Stark Co. from Robert J. Dienst, 297 South High Columbus, asphaltic concrete resurfa 4.693 mi. Sect. H-2 and H-3 U. S. Franklin Co. **$39,000*****from W. L. Sch Bway and McCracken Rd., Cleve **$50,072*****from D. S. Cisle, 808 First Bank Bldg., Hamilton, 1.037 mi. Middletown and I of SH 179, Butler **$27,123.** Bids 3/24. CD 3/15—ENR.

★**Texas**—State Hy. Dpt., Austin, Mar imprv. 1.28 mi. Galveston Co., from solidated Contractors, Edna, **$71,181** $68,200***77.039 mi., El Paso, Culle Jeff Davis and Hudspeth Counties, N. B. Hoffman, Mid-Continent Bldg., Worth, **$73,773** est. $80,000***71,123 Lynn, Hockley, Gaines, Garza, Dawson Cochran Counties and 75.186 mi. Swi Floyd, Brisco, Castro, Lamb and Pa Counties, from Public Constr. Co., D **$54,826** and **$55,434,** respectively est. each***34,631 mi. Nacogdoches and S Counties, from Austin Road Co., 1617 ence St., Dallas, **$28,484** est. 4 23.592 mi. Parmer Co., and 19.673 mi. Co., from Nolan Bros., 742 Metrop Bldg., Minneapolis, Minn., **$77,454** and **484** respectively est. $80,000 each*** 135.531 mi. Presidio, Brewster, and Davis Counties, from C. Hunter Strain Angelo, **$134,725** est. $140,000. CD 3.12.

**CONTRACTS AWARDED**

**Alabama**—State Hy. Dpt., Montgo impvr. 1.099 mi., Jefferson Co., to Milam Co., 8940 1 Ave. N., Birmin **$155,850.** CD 3/6—ENR 3/9.

OADS (Contracts Awarded, Cont'd.)

†**Calif., Camp Roberts**—U. S. Eng., 74 Montgomery St., San Francisco, Zone road construction and imprvs., Contr. 03-eng-546, to Frederickson Bros., Emryville, **$53,920.**

**Conn., Hartford**—City Bd. Contr. & Sup., 550 Main St., furnishing, laying 56,200 yd. sheet asphalt, patching and repairing where needed to Edward Balf Co., 173 ate St., est. **$78,000.** Bids 3/21. CD 3/14 ENR 3/16.

**N. C., Fayetteville**—Asphalt on reconructed soil, surfacing 15 mi., to F. D. Cline, airview Rd., Raleigh, **$198,818.** Bids 3/17. W. Baker, Fayetteville, engr.

**N. C., Wilmington**—City, A. C. Nichols, gr., City Hall, asphalt surfacing city reets to F. D. Cline, Fairview Rd., Raleigh, 5,000. J. A. Loughlin, city engr.

†**Okla., Ardmore**—U. S. Eng., 231 W. Main , Denison, Tex., access roads, Contr. 41-2-eng-171, Small Arms Ranges, to Spencer nstr. Co., Carrollton, Tex., est. **$31,669.**

## EARTHWORK, WATERWAYS

**ROPOSED WORK**

†**Arkansas**—U. S. Eng., 300 Bway., Little Rock, 430,000 cu. yd. earthen levees, on t bank of Arkansas River, approx. 125 above mouth, Jefferson Co. Over $1,000,-

†**Tenn., Memphis**—U. S. Eng., West Memphis, Ark., revetment to prevent bluff sion, **Riverside Park. $1,000,000.** CD 2/21 ENR 2/24.

**Tex., Galveston** — Galveston Co., c/o Judge, Court House, clean, dredge and dening Gum Bayou; dredge and widen ckinson Bayou, emergency drainage for tion roads in county, resurfacing and reiring various hard surfaced roads in mainapd. approx. 40 mi., $1,000,000. C. C. Washton, co. engr.

†**Ont., London**—Commission to be established in near future to prepare plans for ames Valley Flood Control Project. $1,-,000. W. H. Smith, and Prof. J. D. D. twiler, 344 Helmuth Ave., engrs.

**DS ASKED**

*Bids Asked April 4*

**Illinois**—State Div. Waterways, 201 W. nroe St., Springfield, labor, services, ipment for excavating, cleaning out portn main ditch and for exten. ditch of r Lake Special Drainage Dist. in Jackson , $15,000. T. B. Casey, 201 W. Monroe Springfield, **engr.**

*Bids Asked April 18*

†**Louisiana**—U. S. Eng., U. S. P. O. Box Vicksburg, Miss., constructing approx. ,000 cu. yd. earthwork in east bank Red er, Item R-367-L, Half Moon Lake New ee, North Bossier Levee Dist. Bossier rish, Solic. 22-052-44-97; approx. 57,000 cu. earthwork on east bank of Red River, n Place New Levee, Item R-155-L, 19th isiana Levee and Drainage Dist., Grant rish, Solic. 22-052-44-98.

*Bids Asked April 19*

†**Ore., Bend**—Bureau Reclamation, S. O. rper, ch. engr., Custom House, Denver, 2, o., furnishing, del. f.o.b. cars at shipping nt or f.o.b. cars at Bend, two fish screen sts, not incl. motor controls but otherse complete for installation in headworks North Unit Main Canal, Deschutes Proj-. Spec. 1728-D.

**W BIDDERS**

**Calif., Long Beach**—City Harbor Dpt., El Embarcadero, Mar. 15, filling, pavat Berths 19 and 27, Long Beach Outer rbor, Spec. HD 161, from Ansco Constr. 2725 Atlantic Ave., **$72,815.** CD 3/8.

**Md., Randle Cliff**—Yards & Docks, Navy 18 St. and Constitution Ave. N.W., sh., 25, D. C., Mar. 24, erosion protection Naval Research Laboratory, NOY 7479, n A. M. Hazell, Inc., Naval Air Station, sh., D. C. (1) **$28,784** (2) **$38,784.** CD

**Utah, Provo** — Bureau Reclamation, vo, Mar. 15, 3 large concrete syphons on ve Reservoir Canal to replace present d syphons, part of Deer Creek Div. ve River Project, Spec. 1067, from J. B. R. E. Walker, Inc., 21 South 10th West Salt Lake City, **$359,298.** CD 2/15— R 2/17.

**NTRACTS AWARDED**

†**Arkansas**—U. S. Eng., U. S. Post Office & Courthouse, Vicksburg, Miss., approx. 6,000 cu.yd. **earthwork** on west bank issippi River, Chicot Co., to Sternberg dging Co., Arcade Bldg., St. Louis, Mo., 5,700. Bids 1/10. CD 2/16—ENR 2/24, er LB.

**Md., Patuxent River (br. Wash. D. C.)**— ds & Docks, Navy Dpt., 18 St. and Conution Ave. N.W., Wash., 25, D. C., comng concrete sheet pile bulkhead, Naval Station, NOY 9172, to Dean & Macdonald Hollywood, **$28,930.**

## UNCLASSIFIED

**PROPOSED WORK**

★**California**—PIPELINE—Southern California Gas Co., Southern Counties Gas Co., and Pacific Lighting Corp., 810 S. Flower St., Los Angeles, 67 mi. 18 and 22 in. pipeline from Ventura to Los Angeles; 36 mi. 16 in pipeline, Ventura to Goleta and enlargement compressor plant and construction dehydration plants, $4,000,000.

**Ia., Oelwein** — SWIMMING POOL — City, H. J. Finders, clk., voted $40,000 bonds swimming pool. CD 3/1—ENR 2/24.

**La., Bossier**—ELECTRIC LINES—Bossier Rural Electric Membership Co-operative, Bossier, farm connection electric lines. $50,000 REA allot.

★**Missouri**—AIRPORT—City of St. Louis, Municipal Airport Comn., M. M. Kinsey, chn., 304 City Hall, St. Louis, municipal airport, on 4,000 acre tract, at Columbia Bottoms site, near junction Mississippi and Missouri Rivers, incl. eight 10,000 ft. runways, adequate terminal facilities, lighting, sewers, etc. $2,000,000 plus; developing addnl. facilities for Lambert-St. Louis Municipal Airport, Robertson, St. Louis Co., on 620 acre tract to extend airport to Brown Rd., new administration bldg., etc., $100,000 plus. W. W. Horner, Shell Bldg., 1221 Locust St., St. Louis, 3, engr.

†**N. D., Valley City**—AIRPORT COMPLETION—City, L. T. Halvorson, aud., completing municipal airport. $232,500. CAA. CD 10/26—ENR 10/28.

**Okla., Blackwell** — COOLING TOWER — Cities Service Gas Co., Bartlesville, cooling tower in preparation of natural gas. $100,000 or more.

★**Ore., Portland**—SHIPPING FACILITIES —$3,000,000 bond election May 19, rehabilitation city's shipping facilities, B. S. Morrow, City Hall, engr.

**Tex., Beaumont**—HANGARS, etc.—Jefferson Co., Beaumont, 2 hangars and administration bldg., at Jefferson Co. Airport, between Beaumont and Port Arthur, $300,000. Heartfield & Woodside, and C. H. Wignall, Beaumont, archts.

†**Va., Langley Field**—HEATING PLANT—Civil Aeronautics Admin., 14 St. and Constitution Ave. N.W., Wash., 25, D. C., heating plant. Giffels & Vallet, Inc., Masons Creek Rd., Norfolk, engrs.

**Alta., Edmonton**—WELL DRILLING — Ram River Oils Ltd., 728 Tegler Bldg., well drilling program in Ram River, clearwater area in foothills of Alberta, 70 mi. west of Red Deer. $50,000. H. E. Denton, c/o owner, engr.

**B. C., New Westminster**—WHARF—Secy. Dpt. P. Wks., Ottawa, Ont., enlarging wharf. Est. $50,000.

**B. C., Vancouver**—WHARF—B. C. Packers Ltd., foot of Campbell St., Vancouver, wharf. $40,000.

**N. S., Dartmouth**—LAKEFRONT BEAUTIFICATION—Dartmouth Ferry Comn., Dartmouth, beautification Dartmouth Lakes.

**N. S., North Sydney**—CURLING RINK and ICE PLANT—Cape Breton Curling Club, North Sydney, curling rink and artificial ice plant.

**N. S., Parrsboro**—SHIPBUILDING PLANT, etc.—J. A. Urquhart, Ltd., Parrsboro, shipbuilding and repair plant. $50,000.

**Ont., Fort Erie**—ARENA—Committee, c/o M. T. Gray, Niagara Falls Park Comn., Fort Erie, arena. Est. $25,000.

**Ont., Goderich**—ARENA, etc.—Municipality, S. H. Blake, clk., Goderich, arena, artificial ice plant, community centre. $50,000.

**Ont., Lindsay**—AIRPORT FACILITIES—Canadian Pacific Air Lines, 1010 Ste. Catherine St. W., Montreal, Que., airport facilities. $50,000.

**Ont., Lindsay**—CURLING RINK, etc.—Lindsay Curling Club Ltd., c/o H. Forsyth, secy., Lindsay, curling rink, artificial ice plant, club house. $110,000.

**Que., Noranda**—AIRPORT FACILITIES—Canadian Pacific Air Lines, 1010 Ste. Catherine St. W., Montreal, airport facilities. $50,000.

**Que., Quebec City**—WHARF—St. Lawrence Paper Mill Co., Ltd. 820 Sun Life Bldg., Montreal, wharf repairs, on Trinity Bay north shore of St. Lawrence River, near here. $160,850.

**BIDS ASKED**

*Bids Probably Asked Early In April*

†**N. J., Millville**—AIRPORT BLDG.—U. S. Eng., 6 and Walnut Sts., Phila., Pa., airport bldg.

*Bids Asked April 3*

**N. S., Halifax**—WHARF—Secy. Dpt. Munitions & Supply, Woods and Canadian Bldgs., Ottawa, Ont., Wharf at No. 5 Camber, H. M. C. Dockyard, for Dpt. Natl. Defense (Sea), Ottawa, Ont. About $150,000-$200,000.

*Bids Asked April 6*

†**N. J., Linden**—RADIO RANGE FACILITIES—Civil Aeronautics Admin., La Guardia Field, Jackson Heights, N. Y., radio range facilities.

*Bids Asked April 7*

**Missouri**—TRANSMISSION LINES—Atchison-Holt Elec. Coop., Rockport, 119 mi. transmission lines, Atchison Co. Approx. $100,000. Henningson Eng. Co., Standard Oil Bldg., Omaha, Neb., engrs. CD 2/29—ENR 3/2.

†**S. C., North Charleston**—AIR BASE BLDGS.—U. S. Eng., 33 Customhouse, Charleston, 4 prefabricated bldgs. for 7-A-3 trainers at army air base.

*Bids Asked April 10*

**South Carolina**—AIR BASE BLDGS.—U. S. Eng., 33 Customhouse, Charleston, 2 prefabricated bldgs. for 7-A-3 trainers at army airbase, Lexington Co.

†**S. C., Greenville**—AIR BASE BLDGS.—U. S. Eng., 33 Customhouse, Charleston, 2 prefabricated bldgs. for 7-A-3 trainers at army air base.

*Bids Asked*

★†**Va., Langley Field**—AIRFIELD BLDGS., etc.—Civil Aeronautics Admin., 14 St. and Constitution Ave. N.W., Wash., 25, D. C. (selected list bidders), shop and laboratory bldgs., $520,000, and aircraft loads laboratory, $190,000, Carneal, Johnson & Wright, Atlantic Life Bldg., Richmond, archts.; wind tunnel and laboratory bldg., $400,000, and electronic instrument laboratory bldg., $490,000, Ballinger Co., 105 S. 12 St., Phila., Pa., archts.; water lines, electric distr. sys., sewers, utilities, $900,000, Giffels & Vallet, Mason Creek Rd., Boush Creek Rd., Norfolk, engrs. CD 2/16—ENR 2/24.

**LOW BIDDERS**

†**Calif., Muroc**—OIL STORAGE SYSTEM—U. S. Eng., 751 S. Figueroa St., Los Angeles, Zone 14, Mar. 18, oil storage sys. at Army Airfield, from Stratton Constr. Co., 3537 E. Colorado Blvd., Los Angeles, **$30,513.**

†**Calif., Maywood** — AIRFIELD ROADS, etc.—U. S. Eng., 751 S. Figueroa St., Los Angeles, Mar. 15, roads, underground utilities, and fences at Air Force Supply Depot, No. 454, from O'Neal & Hedberg, 825 S. Robertson Blvd., Los Angeles, **$241,626.**

†**Louisiana**—GRADING, etc.—U. S. Eng., 25 St. and Avenue F, Galveston, Tex., addnl grading, drainage, Alvin Collender Airfield Bells Chasse, from Central Constr. Co. Monroe, **$54,480.** CD 3/13—ENR 3/16.

†**Md., Patuxent River (br. Wash., D. C.)**—BOAT HOUSE, etc.— Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., Mar. 18, boat house and armament unit, Naval Air Station, NOY 9213, from Irons & Reynolds, Barr Bldg., Wash., D. C. (1) **$77,231,** (2) **$77,480.** CD 3/13.

★†**Mo., Springfield** — AIRFIELD, etc. — Civil Aeronautics Admin., 410 E. 12 St., Kansas City, Mo., Mar. 20, airfield, incl. runways, necessary grading, etc., Proposal No. 5-P4-282, Schedules 1 and 2, from Gustafson & Jarvis Constr. Co., Sioux Falls, S. D., **$377,000** and **$389,592** respectively ***Schedule 3, from Browtigan Trucco Co., 4846 N. Ellston, Chicago, Ill., **$147,133*****, Schedule 4, from Koss Constr. Co., Old Colony Bldg., Des Moines, Ia., **$666,474*****, Schedule 5, from Peter Kiewit Sons Co., Omaha National Bank Bldg., Omaha, Neb., **$870,435*****Schedule 6, from Northwestern Eng. Co., Rapid City, S. D., **$1,251,411*****, Schedule 7, from Peter Kiewit Sons Co., Omaha National Bank Bldg., Omaha, Neb., **$1,543,428.** CD 3/10—ENR 3/16.

†**Nev., Las Vegas**—LANDING FIELD FACILITIES, etc.—U. S. Eng., 751 Figueroa St., Los Angeles, Calif., Mar. 16, addnl. landing field facilities and roads, No. 406, from Gibbons & Reed Co., P. O. Box 1351, **$244,932.** CD 3/10.

★†**N. Y., Newburgh**—AIRPORT PAVING—U. S. Eng., 120 Wall St., New York, Zone 5, Mar. 24, paving, from L. G. DeFelice & Son, Inc., 1817 Dixwell Ave., Hamden, Conn., **$1,174,553.** CD 3/14—ENR 3/16.

★†**W. Va., Parkersburg**—AIRPORT IMPROVEMENTS — Civil Aeronautics Admin., LaGuardia Field, Jackson Heights, N. Y., Mar. 21, airport imprvs., excav. and concrete paving, from Ralph Meyers Constr. Co., Box 230, Salem, Ind., Western Contracting Co., 2100 E. 4 St., Sioux City, Ia., **$1,269,139** and **$607,747, respectively*****, asphalt paving, from Allegheny Asphalt & Paving Co., 411 Blvd. of Allies, Pittsburgh, Pa., **$557,014*****combined bid excav. and asphalt paving, from S. J. Groves, 595 Broad Ave., Ridgefield, N. J., **$2,580,799.** Received no bids Mar. 21, combined bid excav. and concrete paving. CD 3/15.

**CONTRACTS AWARDED**

★†**Ala., Brookley Field**—RUNWAY IMPROVEMENTS—U. S. Eng., Grant St., west of Westwood St., Mobile, runway imprvs., to Wright Constr. Co., First National Bank Bldg., Columbus, Ga., **$777,905.** CD 1/13—ENR 1/20.

†**Ariz., Kingman** — AIRFIELD BLDGS., etc.—U. S. Eng., 751 S. Figueroa St., Los Angeles, 14, Calif., rehabilitation existing bldg., and constructing new bldgs., utilities Contr. 04-353-eng-459, to J. E. Burrell & Sons, Long Beach, Calif., **$100,615.**

UNCLASSIFIED (Contracts Awarded, Cont'd.)

†**Ariz., Yucca**—AIR FIELD BLDGS., etc.—U. S. Eng., 751 S. Figueroa St., Los Angeles, 14, Calif., rehabilitation existing bldgs., constructing new bldgs., utilities. Contr. 04-353-eng-474, to W. S. Ford, Kingman, **$90,519.**

†**Calif., Alameda**—AIR STATION BLDGS. —Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., housing for 4 celestial navigation trainers, Naval Air Station, NOY 7616, to Stolte, Inc., 8451 San Leandro St., Oakland, **$85,000.**

†**Calif., Albany**—FACILITIES—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., facilities for landing force equipment, NOY 8739, to Dinwiddie Constr. Co., Crocker Bldg., San Francisco, **$140,340.**

†**Calif., Barstow**—OPEN STORAGE AREA PAVING—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., paving open storage area, MCDS, NOY 9320, to Frontier Constr. Co., Bank of America Bldg., Whittier, **$30,900.**

†**Calif., Benicia**—FACILITIES—U. S. Eng., 74 New Montgomery St., San Francisco, Zone 19, addnl. facilities, Benicia Arsenal, Contr. 04-203-Eng-705 to A. J. Hopper, 243 Langton St., San Francisco, **$37,437.**

†**Calif., Hamilton Field**—BARRICADES—U. S. Eng., 74 New Montgomery St., Zone 19, barricades, Contr. 04-203-eng-548, to Fredrickson & Watson Constr. Co., 873 81 Ave. Oakland, **$46,284.**

†**Calif., Herlong**—APRON SLABS—U. S. Eng., 1209 8 St., Sacramento, Zone 8, concrete apron slabs, Contr. 04-167-Eng-423 at Sierra Ordnance depot, near here, to E. B. Bishop, Orland, **$75,550.**

★† **Del., Newark**—CONSTRUCTION—U. S. Eng., First and Douglas Sts., N.W., Wash., 25, D. C., construction work, to Buffalo Gravel Co., Camp Hill, Pa., **$883,000.** Awarded 3/22.

†**Fla., Drew Field (br. Tampa)**—PARKING APRON, etc.—U. S. Eng., 575 Riverside Ave., Jacksonville, Zone 2, parking apron, taxiways and appurtenance paving and drainage, Inv. Neg-Jax-44-467, to Brinson Constr. Co., 215 Madison St., Tampa, Zone 2, **$236,880.**

†**Fla., Fort Myers**—BOMBING and STRAFING RANGES—U. S. Eng., 575 Riverside Ave., Jacksonville, Zone 2, addnl. bombing and strafing ranges at Army Airfield, Inv. Neg-Jax-44-444, to Moody Brothers, Fort Myers, **$25,825.**

†**Fla., Jacksonville**—AIR STATION FACILITIES—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., dependents facilities, Naval Air Station, NOY 8339, to Batson-Cook Co., Inc., West Point, Ga., **$245,746.**

†**Fla., Sanford**—RUNWAY STABILIZATION, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., stabilization of runway, shoulders, Naval Air Station, NOY 8410, to Hall & Caldwell, Jacksonville, **$45,062.**

†**Fla., Tyndall Field**—TARGET RANGE—U. S. Eng., M. Grant St. west of Westwood St., Mobile, Ala., target range, Contr. 01-076-Eng-341 to Royce Kerchaw & Co., Montgomery, Ala., **$34,900.**

†**Ga., Fort Benning**—SWIMMING FACILITIES—U. S. Eng., Grant St. west of Westwood St., Mobile, Ala., swimming facilities, outside utilities, Contr. 01-076-Eng-330 to William Constr. Co., Fort Benning, **$55,840.**

†**Ga., Moody Field, (br. Valdosta)**—GRASSING—U. S. Eng. Post Office Bldg., Savannah, airfield grassing, Contr. 09-133-Eng-150 to R. Heidkamp Co., Inc., Colorado Bldg., Wash., D. C., **$43,143.**

†**Ga., Robins Field (br. Macon)**—AIRFIELD BLDGS.—U. S. Eng., Post Office Bldg., Savannah, temporary frame bldg., Contr. 09-133-eng-144, to Laxton Constr. Co., P.O. Box 2114, Charlotte, N. C., **$48,000.**

†**Ga., St. Simons Island**—WARM-UP APRON, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., addnl. warm-up apron and stabilization runway shoulders, N. R. T. C., NOY 8845, to James H. Crages Constr. Co., 17 N. Main St., Ocala, Fla., **$95,914.**

†**Idaho, Pocatello**—NIGHT LIGHTING SYSTEM—U. S. Eng., Pittock Blk., SW 10 Ave. and Washington St., Portland, Ore., night lighting sys. at air base, to Tice Electric Co., 908 S.E. Hawthorne St., Portland, Ore., **$53,786.**

†**Kan., Independence**—AIRFIELD WORK —U. S. Eng., 10 E. 17 St., Kansas City, Mo., excavation, altering existing drainage sys., base course, etc., Contr. 23-028-eng-363, Independence Airfield, to Reno Constr. Co., Merriam, **$53,789.**

†**Ky., Camp Campbell**—SWIMMING POOL, etc.—U. S. Eng., 306 U. S. Courthouse, Nashville, Tenn., swimming pool, appurtenances, Contr. 40-058-eng-196, to Gardner Constr. Co., McGavock Lane, Nashville, Tenn., est. **$77,795.**

**La., Delcambre**—OIL WELL, etc.—Tidewater Associated Oil Co., Commercial National Bank Bldg., Shreveport, developing 12,000 ft. test oil well, storage facilities to Rowan Drilling Co., Trinity Bldg., Fort Worth, Tex., approx. **$45,000.**

†**Md., Aberdeen Proving Ground**—TARGETS, etc.—U. S. Eng., Standard Oil Bldg., Baltimore, rein.-con. targets, appurtenances, Contr. 18-020-eng-327, to George & Lynch, Delaware Trust Bldg., Wilmington, Del., **$29,780.**

†**Miss., Gulfport**—BARGE TERMINAL, etc.—U. S. Eng., Grant St., west of Westwood St., Mobile, Ala., barge terminal and pipeline, to Natkin & Co., 1800 Baltimore St., Kansas City, Mo. **$42,093.** Est. $40,000. Bids 3/15, awarded 3/20.

†**Miss., Starkville**—TAXIWAYS—U. S. Eng., Grant St., west of Westwood St., Mobile, Ala., addnl. taxiways, Contr. No. 01-076-Eng-336, to R. H. Taylor and J. L. Wheless, Hattiesburg, **$107,099.**

†**Mont., Great Falls**—NIGHT LIGHTING SYSTEMS—U. S. Eng., Textile Tower, Seattle 1, Wash., 2 night lighting sys., to Utility Builders, 431 Ford Bldg., **$161,600.**

**N. J., Jersey City**—FLOOD LIGHTING SYSTEM—City, City Hall, constr., and installation of flood lighting sys., Roosevelt Stadium to J. Hass Co., 149 Montgomery St., **$26,000.** CD 2/29—ENR 3/2.

†**N. J., Newark**—NIGHT LIGHTING SYSTEM, etc.—U. S. Eng., 120 Wall St., New York, Zone 5, N. Y., night lighting sys., control towers, grading, etc., to Chas. Vachris, Inc., 827 Remsen Ave., Brooklyn, N. Y., **$193,270.** Bids Mar. 13, CD 3/20—ENR 3/23 under LB.

†**N. Y., New York**—OXYGEN DISTRIBUTION SYSTEM—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., oxygen distr. sys., Navy Yard, NOY 8158, to A. L. Mirall & Co., Inc., 53 Park Pl., **$136,771.**

†**N. Y., West Point**—TRAINING AREA—U. S. Eng., 120 Wall St., New York, Zone 5, training area, Contr. 30-075-eng-756, U. S. Military Academy, to Grandview Co., 6 Grandview Ave., Mount Vernon, est. **$72,559.** CD 2/25—ENR 3/2.

†**N. C., Bluethenthal Field (P.O. Wilmington)**—HANGAR—U. S. Eng., 308 Customhouse, Wilmington, prefabricated hangar, Contr. 31-075-eng-123, to T. A. Loving & Co., Goldsboro, est. **$123,579.**

†**O., Wright Field (Br. Dayton)**—PARKING LOT, etc.—U. S. Eng., Dayton, parking lot and road, Contr. 33-064-eng-105, to De Salvo Constr. Co., 4011 Erie St., Cincinnati, est. **$95,968.**

**Okla., Norman**—OIL WELL—Mid-Continent Petroleum Corp., 1st Natl. Bldg., Oklahoma City, developing deep test oil well, (1 Westermeier, in NE SW SW 26-1on-3w), to Big Chief Drilling Co., 1st Natl Bank Bldg., Oklahoma City. Over **$25,000.** CD 2/11—ENR 2/17.

†**S. C., Charleston**—MOORING DOLPHINS —Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., mooring dolphins, Wando River, NOY 8700 (Q-8), -Spec. 13334, to R. L. Morrison & Sons, McClellanville, **$72,720.** CD 3/15—under LB-ENR 2/24.

†**S. C., Florence**—SERVICE APRONS—U. S. Eng., 33 Customhouse, Charleston, service aprons at army air field, No. 38-081-44-143 Neg., to Boyle Constr. Co., Sumter, **$108,706.** Bids 3/17. CD 3/7—ENR 3/9.

**Texas**—PIPELINES—Gulf Oil Corp., Gulf Bldg., Houston, laying approx. 75 mi. 8-to 10-in. loop pipelines, incl. 17 mi. from Judkins to Midland, 13 mi. from Saltillo to Big Sandy; 27½ mi. from Big Sandy to Longview, 17½ mi. in Sweetwater area, to Sharman & Allen. Oil & Gas Bldg., Houston, approx. **$119,000.** CD 1/10—ENR 1/13.

**Tex., Abilene**—RANGE—U. S. Eng., Fort Sam Houston, bombing and gunnery range at airfield to Holland Page, Georgetown Rd., Austin, **$31,708.** CD 3/13—ENR 3/16.

**Tex., Carthage**—GAS WELL—Arkansas-Louisiana Gas Co., Slattery Bldg., Shreveport, La., developing 7,000 ft. test natural gas well, to Wheless Drilling Co., Commercial Natl. Bank Bldg., Shreveport, La., over **$25,000.**

**Tex., Crosby**—OIL WELL—Wynn Crosby Drilling Co., Esperson Bldg., and Providence Oil Co., Gulf Bldg., Houston, developing 8,000 ft. test oil well, to W. Crosby Drilling Co., M. Esperson Bldg., Houston, over **$25,000.**

**Tex., Gilmer**—OIL WELL, etc.—H. L. Hunt, Cotton Exchange Bldg., Dallas, developing 6,000 ft. test oil well, storage facilities, own forces. Over **$25,000.**

**Tex., Pescadita**—OIL WELL—Seaboard Oil Co., Continental Bldg., Dallas, developing deep test oil well, to O. W. Killam & Son, Gulf Bldg., Houston, over **$25,000.**

†**Utah, Ogden**—LOADING PLATFORM, etc.—U. S. Eng., 1209 8 St., Sacramento, 8, Calif., loading platform, railroad tracks, Contr. 04-167-eng-419, Ogden Arsenal, to Reynolds Constr. Co., Springville, **$42,052.**

†**Va., Blackstone**—FACILITIES—U. S. Eng., Fort Norfolk, Norfolk, miscellaneous facilities, Army Air Field, Contr. 44-110-eng-86, to Thomson & Street Co., Builders Bldg., Charlotte, N. C., **$52,746.**

†**Va., Langley Field**—TAXIWAY, etc.—U. S. Eng., Fort Norfolk, Norfolk, taxiway and stub-end taxiways, incl. clearing, grubbing, etc., Contr. No. 44-110-Eng-107, to Bero Engr. & Constr. Corp., Langley Field, **$118,411.**

★**Quebec**—RAILWAY LINE—Canadian National Railways, H. A. Dixon, ch. engr. (oper.) 360 McGill St., Montreal, 12 mi. railway line between Eastern Junction and Bout de L'Isle, incl. bridges, subways, to C. A. Pitts, 67 Yonge St., Toronto, Ont., about **$2,800,000.** CD 2/28—ENR 3/2 under LB.

**Que., Godbout**—WHARF—St. Regis Paper Co., Ltd., 610 Cathcart St., Montreal, retaining wharf, to William Harney, Registered, Loretteville, **$120,000.**

## LATIN AMERICA

**Venezuela, Caracas**—Ministry of Public Works, Caracas, waterworks and irrigation systems, to Johnson, Drake & Piper, Inc., and S. J. Groves & Sons Co., 86 Trinity Place, New York, N. Y. Est. $9,000,000. CD 3/9—ENR 3/16.

## PUBLIC BUILDINGS

**PROPOSED WORK**

†**Calif., Alameda**—Home Owners' Loan Corp., 1440 Bway., Oakland, Zone 12, plans by T. M. Edwards, 704 Market St., San Francisco, converting residence at Alameda Ave. and Chestnut St., providing 19 living units for in-migrant war workers, Case No. W4D-176, $20,000.

†**Calif., Berkeley**—Home Owners' Loan Corp., 1440 Bway., Oakland, Zone 12, plans by I. M. Johnson, 449 MacArthur Blvd., Oakland, converting residence at 2021 Dwight Way providing living units for in-migrant war workers, Case No. W4B-1430, $5,000.

†**Calif., Berkeley**—Home Owners' Loan Corp., 1440 Bway., Oakland, Zone 12, plans by A. Lewis Koue, 525 Market St., San Francisco, converting bldg. at 3033 Deakin St., providing living units for in-migrant war workers, Case No. W4B-1411, $5,000.

†**Calif., Berkeley**—Home Owners' Loan Corp., 1440 Bway., Oakland, Zone 12, plans by K. Ponsford, 363 17 St., Oakland, converting residence at 954 University Ave., providing 8 living units for in-migrant war workers, Case No. W4B-1349. $16,000.

†**Calif., Berkeley**—Home Owners' Loan Corp., 1440 Bway., Oakland, Zone 12, converting bldg. at 2713 Derby St., providing living units for in-migrant war workers, Case No. W4B-1351, $5,000.

†**Calif., Berkeley**—Home Owners' Loan Corp., 1440 Bway, Oakland, Zone 12, plans by E. T. Foulkes, 357 12 St., Oakland, converting rooming house at 2462 Bancroft Way providing 10 living units for in-migrant war workers, Case No. W4B-1421, $20,000.

†**Calif., Oakland**—Home Owners' Loan Corp., 1440 Bway., Zone 12, plans by H. T. Johnson, 4716 Reinhardt Dr., converting residence at 1041 34 Ave., providing living units for in-migrant war workers, Case No. W4B-1253, $5,000.

†**Calif., Oakland**—Home Owners' Loan Corp., 1440 Bway., Zone 12, plans by K. Ponsford, 363 17 St., converting residence at 1009 MacArthur Blvd., providing living units for in-migrant war workers, Case No. W4B-1468, $5,000.

†**Calif., Oakland**—Home Owners' Loan Corp., 1440 Bway., Zone 12, plans by Buckley, 155 Sansome St., San Francisco, converting bldg. at 19 Ave. and 25 St., providing living units for in-migrant war workers, Case No. W-4B-1423, $5,000.

†**Calif., Oakland**—Home Owners' Loan Corp., 1440 Bway., Zone 12, plans by A. Lewis Koue, 525 Market St., San Francisco, converting bldg. at 506 Van Buren Ave., providing living units for in-migrant war workers, Case No. W4B-1421, $5,000.

†**Calif., San Jose**—Home Owners' Loan Corp., 821 Market St., San Francisco, plans by D. E. Jaekle & W. S. Gibson, Associates, Hearst Bldg., San Francisco, converting residence providing 10 living units for in-migrant war workers, Case No. W4B-1422, $20,000.

†**Colo., Leadville**—Pub. Housing Auth., NHA, Dierks Bldg., 1006 Grand Ave., Kansas City, Mo., 50 family stop-gap dwelling units, Colo. 5115.

†**Conn., Newington**—Veterans Admin., Vermont Avenue between H. and I Sts., N.W., Wash., 25, D. C., veterans hospital. Over $150,000.

†**Ind., East Chicago**—Defense Plant Corp., 811 Vermont Ave. N.W., Wash., 25, D. C., sketches 1 story, brick, concrete plant. Est. $90,000. Kinetic Chemicals, Inc., du Pont Bldg., Wilmington, Del., operator.

†**Ind., South Bend**—Pub. Housing Auth., NHA., 201 N. Wells St., Chicago, Ill., 100 unit family dwelling housing, Ind. 12188.

UBLIC BLDGS. (Proposed Work, Cont'd.)

†Kan., Enders—U. S. Eng., 10 E. 17 St., Kansas City, Mo., addnl. bldgs., utilities Sunflower Ordnance Works, $2,603,360.

†La., New Orleans—Pub. Housing Auth., HA, 1205 Electric Bldg., 7 and Taylor Sts., rt Worth, Tex., plans by Allison, Owens Goldstein, Canal Bldg., 150 family unit using, La 16106.

†La., New Orleans—Yards & Docks, Navy t, 18 St. and Constitution Ave. N.W., ash. 25, D. C., neuro-psychiatric ward, 3 dical wards, officers quarters, WAVES rracks, roads, walks, services. $317,059.

†Mass., Medford (Br. Boston)—U. S. Eng., rk Sq. Bldg., Boston, (selected list bidrs), rebuilding bldg. moved from another tion, restoring leased buildings, No. 19-023-Neg. 130. $20,000.

†Mich., Detroit—Pub. Housing Auth., NHA, 2 E. 9 St., Cleveland, O., plans by Smith, nchman & Grylls, Marquette Bldg., Detit, 150 temporary family dwelling units, ch. 20229. CD 2/11—ENR 2/17.

†Mich., Sault Ste. Marie—Sketches, cenal steam heating plant. Approx. $150,000. DeYoung, city engr.

†N. J., Jersey—U. S. Eng., 120 Wall St., w York, 5, N. Y., installing electrical tr. sys. in bldgs. $35,000.

†N. Y., Buffalo and Tonawanda—General Motors Corp., General Motors Bldg., Detit, Mich., addn. facilities. Approx. $35,-,000. Defense Plant Corp. will finance.

O., Cleveland—U. S. Eng., York Rd., ns by Wilbur Watson & Assoc., engrs. and hts., 4614 Prospect Ave., two 1 story, k. steel, concrete boiler house addns., Crile General Hospital.

O., Mansfield—Pub. Housing Auth., NHA, 3 E. 9 St., Cleveland, 50 unit family stop- housing, Ohio 33292.

Okla., Norman—R. M. McCool, city mgr., y Hall, plans by Noftsger & Lawrence, 7 N. W. 23 St., Oklahoma City, 3 story g addn. to hospital bldg. $142,000. Apd for FWA funds. CD 2/2—ENR 2/10.

Tex., Ganado—U. S. Eng., 25 St. and enue F, Galveston, war prison camp.

Tex., Houston—Dickson Gun Plant, c/o ghes Tool Co., 9640 Clinton Dr., retooling ting gun barrel mfg. plant into heavy llery mfg. plant. Over $40,000. Dee Plant Corp. will finance.

Tex., Fort Lavaca—City, F. M. Dudgeon, yor, 3 story, 48x68 ft., rein.-con., hollow freeze plant double present bldg. caity, concrete fdn., etc., $225,000. Gar- Eng. Co., 1806 Milam St., Houston r.

Tex., San Antonio—City, reconditioning, rv. existing air-conditioning sys. in nicipal auditorium. M. L. Diver, city r.

Utah, Salt Lake City—Bd. Educ., 440 E. So. St., plans by Ashton & Evans, Bene- al Life Bldg., Southeast School addn.; ns by Ware & McClenahan, Utah Savings Trust Bldg., Onequa School addn.; plans G. C. Cannon, Utah Savings & Trust g., Ensign School addn.; plans by W. E. son, Utah Savings & Trust Bldg., High- l Park School addn.

Virginia—Pub. Bldgs. Admin., 18 and Sts. N.W., Wash., 25, D. C., 1 story, rox. 39x61 ft. laboratory bldg., Va. 44-279, ington Co. **FWA.**

Va., Front Royal—Pub. Housing Auth., A. Temporary Bldg. 2, 19 and D Sts. ., Wash., 25, D. C., 100 unit family stop- housing, Va. 44301.

Sask., Regina—Province of Saskatchewan, Ministry of Old Age Pensions & Child fare, Regina, training school for girls. ,000.

## S ASKED

*Bids Asked April 5*

Md., Patuxent River (br. Wash., D. C.)—ds & Docks, Navy Dpt., 18 St. and Conition Ave. N.W., Wash., 25, D. C., bldg., al Air Station.

. J., Paterson—Fanning & Shaw, archts., Ward St., superstructure, 1 and 3 story, limestone, nurses' home addn., NJ 0, for St. Joseph's Hospital, 691 Main Extended date. CD 3/15—ENR 3/23. r Bids Asked.

*Bids Asked April 6*

Fla., Panama City—Federal Works ncy, 214-M New Post Office, Atlanta, Post Office work room addn.

*Bids Asked April 7*

. C., Elizabeth City—Bd. Trustees, Alrie Hospital, Inc., G. F. Hill, chn., c/o . Lublin, 514 Dickson Bldg., Norfolk, archt., nurses' home and hospital addns. 1-209. **FWA.** Plans deposit $25. CD —ENR 3/23.

. C., Florence—U. S. Eng., 33 Custom e, Charleston, prefabricated for 7-A-3 ers.

*Bids Asked April 10*

**Sask., Fort Qu'Appelle**—D. Webster, deputy minister, Dpt. P. Wks., Regina, alterations and sanatorium addns. $203,500. Van Egmond & Storey, McCallum Hill Bldg., Regina, archts. CD 3/27.

*Bids Asked April 11*

**†Calif., Vallejo**—Pub. Bldgs. Admin., 18 and F Sts. N.W., Wash., 25, D. C., cafeteria bldg. for Vallejo Junior High School, Calif. 4905-1A. H. J. Devine, Cronan Bldg., Sacramento, archt. Extended date. CD 3/14—ENR 3/16.

**†Mich., Ontonagon**—Mrs. D. Aubrey, village clk., 1 story, 44x154 ft. hospital with 44x46 ft. wing, Mich. 29-331. $150,000. FWA. L. A. Geniesse, 226 N. Washington St., Green Bay, archt. CD 12/30—ENR 1/6.

*Bids Asked April 15*

**†Va., Franklin**—Raiford Memorial Hospital, Dr. R. L. Raiford, chn. Bd., at office Rudolph, Cooke & Van Leeuwen, archts., 355 Monticello Arcade Bldg., Norfolk, 10, Raiford Memorial Hospital 3 story addn., Va. 44-315. $164,000. FWA. Plans deposit $25. Extended date. CD 3/17—ENR 3/23.

*Bids Asked April 17*

**†Ind., South Bend**—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, Ill., demounting 100 unit family dwellings, Ind. 12188, at Kingsford Heights, LaPorte Co., and moving and re-erecting same, here. Est. $150,000. Loebl & Schlossman, 333 N. Michigan Ave., Chicago, Ill., archts. CD 3/9—ENR 3/16.

*Bids Asked April 30*

**†N. J., Shrewsbury**—Pub. Housing Auth., NHA, 270 Bway., New York, 7, N. Y., converting existing dormitory group into 126 separate dwelling units, NJ 28-165. H. I. Braun, 191 Bway., Long Branch, archt. CD 3/20—ENR 3/23, under BA.

### LOW BIDDERS

**†Calif., Los Angeles**—Pub. Housing Auth., NHA, 1102 Architects Bldg., Los Angeles, Mar. 21, site imprvs., water, sewer and electrical sys., planting and shower bldgs. for 500 portable dwelling units, Calif. 4828, from Wm. Crowell Co., 170 E. California St., Pasadena, **$315,300.** CD 3/21—ENR 3/23, under CA.

★**†Ga., Marietta**—Pub. Housing Auth., NHA, Georgia Savings Bank Bldg., Peachtree and Broad Sts., Atlanta, Mar 22, 500 family dwelling units and facilities, Ga. 9172 from John A. Johnson Constr. Co., 268 41 St., Brooklyn, N. Y., frame, **$995,696** and masonry from R. M. Lee, 337 W. Peachtree St. N.W., Atlanta. **$1,165,000.** CD 3/2—ENR 3/9.

**†Mo., Fort Leonard Wood (br. St. Louis)**—Pub. Housing Auth., NHA, Dierks Bldg., 1006 Grand Ave., Kansas City, Mo., Mar. 17, demounting 75 unit dwellings, Mo. 23037, Wentzville and Mo. 23051, at Louisiana, and moving and erecting same under Nos. Mo. 23077 and Mo. 23078 at Fort Leonard Wood, incl. site imprvs. sewers water lines community and dormitory bldgs., etc., from Schulenburg & Darr, 4976 Eichelberger, St. Louis, Zone 9, **$816,575.** CD 3/10—ENR 2/17.

**†Va., Arlington**—U. S. Eng., 1 and Douglas Sts. N.W., Wash., 25, D. C., Mar. 24, 12 barracks bldgs., etc., from Charles Tompkins Co., 907 16 St. N.W., Wash., D. C., **$453,770.** CD 3/20.

### CONTRACTS AWARDED

**†Calif., Burbank**—Lockheed Aircraft Corp., Burbank, 240 ft. long, 25 to 45 ft. wide, rein.-con. ducted engine test bldg., to Ford J. Twaits Co., 451 S. Boylston St., Los Angeles, **$123,900.** Defense Plant Corp. will finance. D. B. Parkinson, 433 S. Spring St., Los Angeles, archt. CD 2/29—ENR 3/2.

**†Calif., Mare Island**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., housing facilities for 6 ship barracks, Navy Yard, NOY 8122, to Barrett & Hilp, 918 Harrison St., San Francisco, **$399,459.**

**†Ga., Conley**—U. S. Eng., Post Office Bldg., Savannah, temporary frame bldgs., Contr. 09-133-Eng-145, to Christian & Bell Co., 101 Marietta St. N.W., Atlanta, **$283,074.**

**†Ind., Anderson**—Chevrolet Div. General Motors Corp., Anderson, remodeling bldg. for forging plant, to A. J. Glaser Constr. Co., Anderson Bank Bldg. Est. **$100,000** with equip. Defense Plant Corp. will finance. CD 10/27—ENR 11/4.

**†Kan., Hutchinson**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., public works bldg. and paint storage bldg., naval air station, NOY 6840, to Dondlinger & Son Constr. Co., 1206 E. Lincoln St., Wichita, **$39,820.**

**†Md., Indianhead**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., barracks, Naval Powder Factory, NOY 8160, to Victor R. Beauchamp, Inc., 2601 Connecticut Ave. N.W., Wash., 8, D. C., **$268,000.** Bids 3/4. CD 2/28.

★**†Mich., Inkster** — Pub. Housing Auth., NHA, 2073 E. 9 St., Cleveland, O., 200 unit temporary family dwellings, Mich. 20198, to Weinstein Constr. Co., 573 E. Talmadge Rd., Akron, O., **$577,700.** Bids 3/10, awarded 3/18. CD 3/15—ENR 3/23 under LB.

★**†Neb., Fort Crook**—U. S. Eng., 1709 Jackson St., Omaha, addnl. bldg. at bomber assembly plant, to Madsen Const. Co., 1790 Lyndale Ave S., Minneapolis, Minn., approx. **$500,000.**

**†N. J., Belleville**—Resistoflex Corp., 39 Plansoen St., 1 story, brick, plant addn., to Walter Kidde Constructors Co., 140 Cedar St., New York, N. Y. **$90,000.** Defense Plant Corp. will finance.

**†Ore., Albany**—Bureau of Mines, Interior Bldg., E St. between 18 and 19 Sts., Wash., 25, D. C., plumbing and heating for laboratory, to J. M. Harder, 20 S.W. 2 St., Portland, **$50,000.** CD 3/29—ENR 4/1.

**†Pa., Butler**—U. S. Eng., Standard Oil Bldg., Baltimore, Md., addnl. construction, Deshon General Hospital, Contr. No. 18-020-Eng-337, to Paul W. Glenn, Sharon, **$154,898.**

★**†Pa., Mechanicsburg**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., 25, D. C., administration, cafeteria and boiler house bldgs., etc. at Navy Depot, to Wark & Co., 1700 Sansom St., Phila. Pa., **$667,000.** Bids 3/16, awarded 3/21. CD 2/11.

**†Pa., Phila.**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., Bldg. 559 exten., electric switch gear, N A M C, Navy Yard, NOY 7876, to Westinghouse Electric & Mfg. Co., 3001 Walnut St., **$55,825.**

★**†Alaska, Anchorage**—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave and Union St., Seattle 1, Wash., 15 family housing units, Ana 50070, 70 units for two-person occupancy each, Aaa 50074, and 20 housing units, Aaa 50075, to C. W. Hufeisen, Anchorage, **$772,000.** Bids 3/10. CD 3/15—ENR 3/23, under LB.

## COMMERCIAL BUILDINGS

### PROPOSED WORK

**Calif., Long Beach**—Tower Franklin, c/o H. Gibbs, archt., 441 E. First St., making plans 40 frame, stucco dwellings. Over $150,000.

★**Calif., Montrose**—Retired Nurses Foundation, 602 S. Central Ave., Glendale, plans by G. Postle, 1900 Melwood St., Glenwood, rein.-con. hospital bldg. $500,000.

**Colo., Denver**—L. V. Martin, 1171 Krameria St., plans by Fisher & Fisher, Denver National Bldg., 2 brick bldgs., containing 44 living units, $250,000. FHA.

★**Tex., Houston**—Hunter Lumber Co., F. A. Hunter, 4605 Montrose Blvd., plans by H. Lloyd, 4605 Montrose Blvd., 144 frame 5 and 6 room dwellings, concrete fdns. $600,-000.

★**Tex., Houston**—Mensco, Inc., M & M Bldg., plans by J. Knostman, W. Gray St., 104 frame dwellings, concrete fdn., etc. $500,000.

**Tex., San Antonio**— B. B. Smith, Alamo Natl. Bldg., frame type dwellings, south side. **$150,000.**

**N. S., St. Joseph**—Reverend Sisters of the Sacred Heart, St. Joseph, convent. **$150,000.**

**Ont., Kapuskasing**—Kimberly Clark Corp. of Canada, Ltd., 330 University Ave., Toronto, houses for company's employees. **$350,000.**

**Ont., Kitchener**—Bd. St. Jerome College, 94 Duke St., college exten. **$200,000.**

**Ont., Sarnia**—Sarnia General Hospital Bd., J. T. Barnes, chn., plans by N. B. Forbes, 187 N. Christina St., addnl. isolation and nurses quarters, etc. **$178,000.**

**Ont., Sudbury**—Acme Building & Constr. Co., 10 Elm St., bungalows and detached houses. **$165,000.**

**Ont., Toronto**—Sisters of St. John the Divine, Cummer Ave., North York, convalescent hospital addn., North York. About $175,000-$200,000.

**Ont., Toronto**—E. Smith, 72 Ronan Ave., 2 story, brick dwellings, concrete block fdns. **$150,000.**

**Ont., Toronto**—Adobe Housing Ltd., c/o G. M. Ferguson, 480 Whitmere St., dwellings. **$150,000.**

**Que., Baie Comeau**—Crowley & McCracken Co. Ltd., 466 St. Alexis St., Montreal, plans by C. D. Goodman, 1502 St. Catherine St., W., Montreal, reconstructing hotel, stores, laundry and bakery, north shore River St. Lawrence, below Quebec. $150,000.

**Que., Gaspe** — Gaspe Convent, Rev. Les Ursulines, De Gaspe, Rev. Bishop, F. X. Ross, principal, convent school addn. $150,-000.

**Que., Montreal**—Authentic Type Homes, Ltd., 4925 Circle Rd., 75 suite apartment house, Cote des Neiges Rd. $200,000.

**Que., Montreal**—A. Maron, 4925 Circle Rd., 24 cottages, Iona Ave. $150,000.

**Que., Montreal**—C. David, 1440 St. Catherine St., W., archt., soon lets contract research laboratory addn. for Montreal Polytechnical School, A. Circe, dir., 1430 St. Denis St.

**Que., St. Laurent (Postal Dist., Montreal)**—Protestant Bd. School Trustees, St. Laurent, c/o W. J. Lloyd, secy., 210a Gohier Ave., Montreal, plans by Ross & MacDonald, 1010 St. Catherine St., W., Montreal, high school addn., 102 Cardinal St. $200,000.

**CONTRACTS AWARDED**

**Calif., Glendale**—H. C. Myers, 339 Lawson Pl., 9 frame, stucco apartment bldgs., North Central Ave., to Nelson Bros., 622 N. Jackson St., **$200,000.**

**Calif., Van Nuys**—Calcoast Co., 919 Union Bank Bldg., Los Angeles, 92 frame, stucco dwellings, Cohasset and Runnymead Sts., to Thoreson Constr. Co., 919 Union Bank Bldg., Los Angeles, approx. **$336,000.**

**N. J., Camden** — Canterbury Developers, Morgan Blvd. and Olive St., brick duplex housing development, at Canterbury, section of Camden. Owner builds, **$250,000.**

**O., Toledo**—Colony Building Co., c/o H. S. DeGroot, 740 Leader Bldg., Cleveland, rebuilding commercial bldg. and arcade to George W. Lathrop & Sons, Inc., 1510 Montcalm St., Toledo, est. **$150,000.** G. A. Ebeling, Cuyahoga Bldg., Cleveland, archt.

**Ore., Portland** — Heights Garden Court, Inc., 300 E. 28 St., 38 apartment bldg., to Waale-Camplan Co., 2100 S.W. Jefferson St. Est. **$200,000.**

**Tex., Houston**—Plumb Mitchell Corp., 4522 Griggs Road, forty-eight 1 story, frame houses, Marlow Place. Owner builds, est. **$240,000.** J. Knostman, 2017 W. Gray Ave., Houston, archt. CD 2/24—ENR 3/4.

**Tex., Houston**—Richmond Housing Corp., 2111 Richmond Rd., sixty-two 1 story, frame dwellings, all utilities, etc., to W. Eugene King, 2111 Richmond Rd., approx. **$285,000.**

**Utah, Salt Lake City**—Varsi-Goodman, Newhouse Bldg., 84 four room unit housing, 21st East and 17th South Sts., to E. L. Eckman, 6000 South State St., Murray. Est. **$4,800** per unit. CD 2/14—ENR 2/17.

**Que., Montreal**—Laval Realties Co., Ltd., 4961 Queen Mary Rd., plans by F. Consiglio, 68 Stratford Rd., Hampstead, 16 brick duplex residences, concrete fdns., Dufferin Rd., near Ellerdale Rd., near here. $192,000.

**Que., Montreal**—A. M. Maron, 4925 Circle Rd., 32 suite apartment bldg., Cote des Neiges Rd., near Boulevard. About $175,000.

**Que., Sherbrooke** — St. Charles Boisomee Seminary, A. Crepeau, pres., Rev. A. Sideleau, superior, seminary wing addn. About $150,000-$200,000. A. Belanger, 26 Queen Blvd., archt.

**Que., Three Rivers**—La Cooperative d' Habitation Lafleche, Three Rivers, A. Lacombe, pres., 338 St. Antoine St., 100 houses. $250,000-$300,000.

## INDUSTRIAL BUILDINGS

**PROPOSED WORK**

**Ark., Harrison** — ZINC PROCESSING PLANT—Advance Mining & Eng. Co., Harrison, J. Stone, mgr., zinc processing plant, 3½ mi. from here.

**Ark., Little Rock**—FACTORY—Arkansas Wood Products Co., c/o Manager, Little Rock, factory. $45,000.

**Ark., Yellville** — ZINC PROCESSING PLANT—Hall Mountain Mining Co., J. C. Jones, mgr., Yellville, zinc processing plant.

**Ark., Yellville**—ZINC MILLING PLANT—S. & G. Zinc Co., J. C. Shepherd, mgr., Yellville, 200 ton zinc milling plant.

**Conn., Stamford**—FACTORY—Union Industries, Inc., 375 Fairfield Ave., plans by D. Mansell, 24 Park Row, brick, concrete factory unit, Fairfield Ave. $40,000.

**La., Eunice**—PLANT— Owner, c/o L. G. Seale, pres., Eunice, rice drying plant, $50,000.

**Md., Dundalk**—DRYER—Baltimore Pure Rye Distillery, Dundalk, soon lets contract 1 story, 50x80 ft. dryer bldg. United Engineers & Constructors, 1401 Arch St., Phila., Pa., engrs. and archts.

**Minn., Roseau** — MILK DEHYDRATING PLANT—Land O' Lakes Creameries, Inc., 2301 Kennedy St. N.E., Minneapolis, L. L. Getten, production mgr., plans by M. O. Buetow, 1931 University Ave., St. Paul, milk dehydrating plant, brick, tile. $70,000.

**Minn., Winona**—PROCESSING CENTER—Owner, c/o Land O' Lakes Creameries, Inc., operators, L. L. Getten, production mgr., 2301 Kennedy St. N.E., Minneapolis, milk processing center. $300,000.

**Neb., Minden**—MILL and PLANT—Farms Co-op. Grain & Supply Co., Minden, alfalfa mill and dehydrating plant, at Motala, 5 mi. from here. $50,000.

**N. Y., Olean**—PLANT—Clark Bros., Olean, Div. Dresser Mfg. Co., Bradford, Pa., plant addn. Over $50,000.

★**N. Y., Olean**—OIL REFINERY ADDITION—Socony Vacuum Oil Co., 1103 Elk St., Buffalo, revising plans, crude oil refinery addn. $150,000; and possibly erection new high-octane gasoline refinery unit. $5,000,000.

**N. C., Charlotte**—PLANT—Arnold Hoffman & Co., W. Bunch, mgr., chemical plant expansion, N. Tryon St. $40,000.

**O., Marietta**—PLANT—Casto Rubber Co., Dr. G. Casto, pres., Spencer, W. Va., synthetic rubber mfg. plant addn. Over $40,000.

**O., Youngstown**—PLANT—Republic Steel Corp., R. J. Wysor, pres., Republic Bldg., Cleveland, rebuilding 3 story, brick, steel pickling plant, destroyed by fire, $100,000. C. A. Thayer, Republic Bldg., Cleveland, engr.

**Ore., The Dalles** — PACKING PLANT — Columbia George Packing Co., The Dalles, packing plant addns. $45,000.

**Tenn., Nashville**—LAUNDRY—Lily White Laundry, M. C. Jenkins, pres., 317 5 Ave. S., rebuilding brick, concrete laundry bldg., Fifth Ave. S. and Franklin St., destroyed by fire. $50,000.

**Tex., Houston**—PLANT—Texas Rubber & Specialty Corp., 920 Adelle St., rebuilding one 30x40 ft., and two 40x60 ft. plant bldgs., concrete fdns., etc. $40,000.

**Tex., Odem**—PLANT—Stanolind Oil & Gas Co., Fair Bldg., Fort Worth, pressure-maintenance plant. Over $40,000.

**Tex., Sunray**—PLANT—Continental Carbon Co., Sunray, modern furnace black carbon plant unit. Over $40,000.

**Wis., Stoughton**—FACTORY—Nelson Muffler Co., Stoughton, plans by Balch & Lippert, 16 W. Carroll St., Madison, 1 story, 50x160 ft., brick, steel truss factory addn., concrete fdn.

★**N. B., Bathurst** — PLANT — Bathurst Power & Paper Co. Ltd., Bathurst, altering plant, etc. $591,750.

**Que., Mont Laurier**—SAW MILL—C. S. Dent, Maniwaki, saw mill and associated plant. $50,000.

**Que., Montreal**—FACTORY—Bloomfield & Son Reg., 303 W. St. Paul St., 1 story, 80x160 ft., textile rubberizing factory. $40,000.

**Que., Montreal** — PLANT — Canadian Car & Foundry Co. Ltd., 621 W. Craig St., bids soon, plant addn. $40,000. L. N. Booth, 1016 Railway Exchange Bldg., archt.

**Que., Montreal**—FACTORY, etc.—Silver Waste & Paper Co. Reg., 3742 Colonial Ave., factory and warehouse. $40,000.

**Que., Montreal East (Postal Dist. Montreal)**—PLANT—Can. Copper Refineries Ltd., 7 Durocher St., 50x80 ft., 50 ft. high, 26x42 ft. and 24x68 ft., both 26 ft. high, plant bldgs. $100,000. G. Pradl, c/o owner, engr.

**Que., Montreal** — PLANT — Patricia Silkware, Inc., 4602 Blvd. St. Laurence, plans by R. Charbonneau, 5149 Decarie Blvd., 60x80 ft., brick plant, rein.-con. fdn. $40,000.

**Que., Ste. Anne de la Pocatiere**—PLANT—Co-operative of Kamouraska, Ste. Anne de la Pocatiere, flax plant. $40,000.

**Que., Ste. Rosalie**—GRAIN MILL, etc.—Agriculture Co-operative Society, Ste. Rosalie, grain mill and elevator. $40,000.

**BIDS ASKED**

*Bids Asked April 4*

**N. J., Perth Amboy**—FACTORY—American Smelting & Refining Co., 120 Bway., New York, N. Y., 1 story, 98x541 ft., brick factory, change house and chlorine tank rack house, $200,000. CD 2/1—ENR 2/3.

*Bids Asked*

**Ind., Decatur**—PLANT—Kraft Cheese Co., Wm. A. Klepper, mgr., Indiana Div., Decatur, 1 and 3 story, 700x100 ft., brick concrete and steel milk condensing plant, $100,000. Graham, Anderson, Probst & White, 80 E. Jackson Blvd., Chicago, Ill., archts. CD 2/3—ENR 2/10.

**Minn., Hutchinson** — FACTORY — Kraft Cheese Co., 500 N. Peshtigo Court, Chicago, Ill., (selected bidders) 1 story, 75x100 ft., brick, concrete factory. Graham, Anderson, Probst & White, 80 E. Jackson Blvd., Chicago, Ill. archts.

**Pa., Derry** — FACTORY — Westinghouse Electric Mfg. Co., Geo. H. Park, mgr., Maloney Bldg., Pittsburgh, soon lets contract Factory Bldg. A, alterations, incl. replacing exterior walls, rebuilding rein.-con. open sewer, etc.

**CONTRACTS AWARDED**

**Calif., Oakland** — ROUND HOUSE & TURNTABLE—Western Pacific Railroad Co., T. L. Phillips, ch. engr., 526 Mission St., San Francisco, round house and turntable to Barrett & Hilp, 918 Harrison St., San Francisco, **$48,600.** CD 10/20—ENR 10/28.

**Ia., Bettendorf**—COOLING SHED—Ordnance Steel Foundry Co., Bettendorf, cooling shed, to Tunnicliff Const. Co., 105 Fillmore St., Davenport, approx. **$118,000.**

**Mass., Springfield**—FORGE SHOP—Smith & Wesson, Inc., 55 Stockbridge St., 1 story, 100x200 ft. and 90x100 ft., brick steel forge shop, Roosevelt Ave., to E. F. Carlson, Inc., 1694 Main St., **$75,000.**

**Minn., Fosston**—PLANT—Land O'Lakes Creameries, Inc., L. L. Getten, production mgr., 2201 Kennedy St. N.E., Minneapolis, general contract, 1, 2 and 3 story, 94x1[illegible] ft., brick, tile, concrete spray drier plant, to J. B. Nordenstrom, Mora. Est. **$60,000**, **$70,000** not incl. equip. CD 3/8—ENR 3/16.

**Mo., St. Louis**—FACTORY—C. S. Owen, 2020 N. Bway., Zone 6, 1 story, 30x107 ft. brick factory bldg. addn., concrete fdns. etc., to William Green & Son, 3141 S. Bway., Zone 18. Est. **$40,000** with equip.

**N. J., Bloomfield**—PLANT BLDG.—General Electric Co., 5 Lawrence St., converting 4 story, brick mfg. bldg. into cafeteria & Becker Constr. Co., 361 Grove St., Newark, **$40,000.** E. Gorham, 5 Lawrence St., archt.

**N. J., Garwood**—FACTORY—Plating Products Mfg. Co., 847 South Ave., Garwood, 1 story, cinder block plating factory & W. D. Snyder & Son, 96 Michigan Ave., Kenilworth, **$40,000.** S. J. Potter, 410 Colonial Ave., Union, archt.

**N. J., Gloucester** — WAREHOUSE — The Rubboid Co., 500 5 Ave., New York, N. Y., mfg. and warehouse, to Wigton-Abbott Corp., 1225 South Ave., Plainfield, **$100,000.**

**N. J., New Brunswick** — PLANT — New Brunswick Rubber Co., Super Highway, 1 story, frame rubber plant addn., to Frank Lamb Co., 256 Newkirk Ave., Trenton, **$50,000.** Wm. Slack & Son, 1401 W. State St., Trenton, archts. CD 3/7—ENR 3/9.

**N. J., North Brunswick**—LABORATORY—E. R. Squibb & Sons, 745 5 Ave., New York, N. Y., laboratory addn., on Georges Rd. to Wigton-Abbott Corp., 1225 South Ave., Plainfield, **$50,000.** Abbott Merkt & Co., 10 E. 40 St., New York, N. Y., archts. CD 2/28—ENR 3/2.

**N. C., Asheville**—MILL—Earle Chesterfield Mill Co., Asheville, brick, steel mill bldg. addn., to Herman Sipe & Co., Conover, **$75,000.** Awarded 3/17. Six Associates, Asheville, engrs. and archts.

**N. C., Navassa**—PLANT—Virginia-Carolina Chemical Co., Navassa, 70 ton per day sulphuric acid plant, to Leonard Contr. Co., 37 S. Wabash St., Chicago, Ill., approx. **$250,000.**

**N. C., Winston Salem**—PLANT—National Carbon Co., cafeteria locker room addn. and main bldg. addn., to Fowler Jones Constr. Co., Winston Salem, **$134,000.** CD 3/21.

★**O., Cleveland**—PLANT BLDGS.—Industrial Rayon Corp., H. Rivitz, pres., W. 98 St. and Walford Ave., compressor house, crystallizer bldg., etc., to George A. Rutherford Co., 2725 Prospect Ave., est. **$2,000,000.** Wilbur Watson & Assoc., 4614 Prospect Ave., engrs.-archts.

**Ore., Astoria**—COLD STORAGE PLANT—San Juan Fishing & Packing Co., L. Calvert, pres., E. Waterway and Stacy St., Seattle, Wash., cold storage plant, to E. Hendrickson, Astoria. Est. **$40,000.**

**Pa., Phila.**—UTILITY—Baltimore & Ohio R.R. System, A. C. Clarke, ch. engr., Baltimore and Charles Sts., Baltimore, Md., wood general utility bldg., Jackson St., and Schuylkill River, to L. A. Hauser Co., Inquirer Bldg., **$45,000.** Awarded 3/21.

**Tex., Galveston**—SHOP—Todd Dry Docks Inc., Pelican Dike, Galveston, 1 story, 70x150 ft., concrete and hollow tile, reinf. con. and structural steel, etc., shop bldg. to McDonough Bros., 2701 Water St., approx. **$52,000.** R. W. Rustay, Electric Bldg., Houston, engr.

**Tex., Houston**—PLANT—American Brake Shoe & Foundry Co., 2620 Maury St., concrete masonry, blower units, warehouse to W. G. Goggan, 1116 Banks St., Houston, **$40,000.**

★**Wash., Bellingham** — PLANT — Pacific Sound Pulp & Paper Co., Bellingham, ethyl alcohol production plant, to Howard S. Wright & Co., Inc., 407 Yale Ave. N., Seattle. Est. **$900,000.**

**Wis., Green Bay** — STORAGE BLDG. — Atlas Warehouse & Cold Storage Co., Main row St., 2 story, 17x133 ft., cold storage bldg. addn., and 40x133 ft., brick addn. to present bldg., to Selmer Co., Northern Bldg., R. W. Surplice, 1213 Emilie St., archt.

**Wis., Waupaca** —WAREHOUSE— Central Wisconsin Seed Co., 1 and 2 story, 34x60 ft. and 34x42 ft., concrete warehouse, S. Newman, Waupaca. W. C. Weeks, Inc., 720 Ontario Ave., Sheboygan, archts.

**Ont., Wallaceburg**—BOILER HOUSE, etc.—Hutton & Souter, archts., 36 James St. S., Hamilton, plant boiler house, mfg. bldg. (rig bldg.) and warehouse and dock, to H. J. Heinz Co. Ltd. M. S. Dixon, mgr., Leamington, to Frid Const. Co. Ltd., King St. E., Hamilton, about **$350,000-$400,000.** Bids 3/4. CD 2/23—ENR 3/2.

**Que., Drummondville** — PLANT — Drummondville Cotton Co. Ltd., Dorion St., story, addn. to existing 2 story plant, Anglin-Norcross, Quebec, Ltd., 892 Sherbrooke St. W., Montreal, about **$80,000.** Pringle & Son, Ltd., 485 McGill St., Montreal, engr.

*Proposal Advertisements see p. 19 and*